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American Railroad Journal.

Saturday, September 11, 1852.

Ohio.

Marietta and Cincinnati Railroad.—The second annual report of the President and directors of this company, submitted 18th August, 1852, states that since the last annual meeting, when contracts had been put out for the grading, masonry, and bridging of 33 miles of the road, the construction of the line eastward to the coal measures of Vinton and Jackson counties, and westward to the intersection with the Hillsborough and Cincinnati road, has been awarded to Messrs. Cushing, Wood & Co.—These gentlemen were giving every satisfaction and rapidly preparing the line for the iron.

The total expenditure up to 1st August including engineering, is, $351.482.43. The funds of the Co. are $850,000, and the road bed will be prepared in readiness for the iron without any indebtedness on the part of the company, being incurred.

8,000 tons of compound rail, 75 lbs. to the yard, have been contracted for, to be delivered in New York next spring. This iron has been purchased at low rates, and is to be paid for in the mortgage bonds of the company. A locomotive for the transportation of the earth on the heavy embankments, near Chillicothe, and iron for a track have already been purchased. Contracts for cross ties, at a low rate, have also been made for about half the track.

The surveys from the termination of the present lettings, to Marietta, are sufficiently advanced to justify a location, and proposals from contractors for grading, etc., were to be received up to the 8th inst. A line has also been surveyed to Belpre connecting with the Northwestern Virginia, railroad at Parkersburgh, and a mile and a half shorter than the line previously run by the Hocking Valley, and avoiding the short curves and other difficulties of that route. By this line the distance from Cincinnati to Belpre will be within 178 miles.

The citizens of Wheeling, under authority granted by the State of Virginia, have by vote authorized their City Council to subscribe $250,000 to the capital stock. Under the provisions of the general railroad law of Ohio authorising an increase in the amount of capital stock, not to exceed the amount of the original stock, the directors recommend, that authority be given by the stockholders, for filing the proper certificate with the Auditor of State adding $3,000,000 to the present capital, making it in all $6,000,000.

The report next enumerates the connecting lines of the Marietta and Cincinnati railroad, which, when completed, will form the grand *Southwestern System.* Among these are the Baltimore and Ohio railroad, and the North Western, the Pennsylvania Central, and the Hempfield roads, and the Ohio and Mississippi, securing a simultaneous opening between St. Louis, and Cincinnati, with the completion of the Marietta and Cincinnati railroad.—The citizens of Dayton propose opening a road connecting at Leesburg, and a thorough organization may soon be expected under the charter of the Dayton, Xenia and Belpre Co. Coal now costs in Dayton 20 cents a bushel, but with a railroad of 100 miles Dayton can be supplied at less than 7 cents, the difference in price for 2,000,000 bushels, a little over 2 years supply, would yield $260,000. The Gallipolis, Jackson and Chillicothe railroad, have recently organized, and will intersect with the M. and C. railroad upon the portion already under contract. Through this channel a direct communication will be secured by the Central railway of Virginia to Norfolk and Richmond, nearly simultaneously with those to Baltimore and Philadelphia.—The Scioto and Hocking Valley gives a communication to the city of Portsmouth. The directors look forward to a speedy connection with the railway system of Kentucky centering at Lexington, and having its outlet at Maysville, and with the continuation of the same trunk line to Nashville and the still longer system concentrating there.

COAL BUSINESS.

It is ascertained that an arrangement may be effected with the Hillsboro' and Little Miami roads, by which the business of our line, may pass into the city of Cincinnati upon fair and equitable terms, leaving the immediate prosecution of the road under the charter into the city, entirely at our own discretion.

The extensive arrangements made by the Little Miami company by way of depot grounds, and the very liberal spirit manifested, in extending facilities to this company for the use of track and grounds, may well quiet any apprehensions on the score of city accommodations for our business.

The most important item in that business, will be the delivery of coal.

At the distance of 112 miles from Cincinnati, Cannel coal, said to be ten feet in thickness, as well as that quality described by Prof. Mather, as being "peculiarly adapted for the manufacture of iron, (without the necessity of even coking,) for fuel, for steam engines and locomotives, and for parlor fires," will be opened for mining upon the line of the M. and C. road.

From this point, the line of this road will pass, more than 50 miles, through the richest and most accessible portions of the coal fields of Southern Ohio. To the reports of the Geological corps in this State, made in 1833, and the full statement of Prof. Mather, made to this company and presented in our former reports, we are enabled to add our own observations, confirming all that has been said, by high authority, as to the value and extent of the coal beds on the route of said road. No effort has been made to develope these treasures—in fact of no value without a railroad—but they are met in every hill-side, and on the borders of the streams and ravines, the naked fronts of massive coal beds of from 4 to 12 feet in thickness, which invite the miner to open, without cost, "placers" of more than California profits.

The Scioto and Hocking Valley road will cross our line nearly at right angles, and will bring within our influence, for at least 25 miles on either side, the coal beds along its course. This, added to our own track of 50 miles, makes 100 miles in length, of railroad opening, to the coal fields, which Cincinnati and other points West will command, by the Marietta and Cincinnati line. With the power contained in the 10th section of our charter, "to construct branched roads from the main route, to any towns or *places* in the several counties thro' which the said road may pass," we can secure the development and render tributary to us, every coal and iron-ore bed in the counties of Jackson, Vinton, Athens, and Washington. But, confining the

prospect to the immediate vicinity of the road, we find the quantity of coal peculiarly belonging to this route, thus described in the Ohio Geological reports (page 87:) "The belt of coal deposits in Jackson county, and *thence to the Hocking river*, is so abundantly stored with coal, as to be equivalent to one solid, unbroken stratum fifty miles long, and nine feet thick. This amount of coal will yield about 9,000,000 of tons per square mile." The 250 square miles of coal being an average of 5 miles on each side of our track (not including contributions from the Scioto and Hocking Valley road) thus opened for mining by this road, will yield 2,250,000,000 tons of coal, above the valleys, and accessible without shafting. This would give to the road an annual business of 1,000,000 tons for 2,250 years—making an annual income, at 4 cents per bushel for transportation, of about $1,200,000; and an annual product in market, at 8 cents, of $2,400,000.

If coal can be held at the steady rate of about 8 cents per bushel to the consumers of Cincinnati and the Miami Valleys, and 6 cents to those of the Scioto Valley, the present generation will witness a demand fully equal to 1,000,000 tons per annum.

The more recent experience of the Baltimore and Ohio railroad company has demonstrated the practicability of conveying coal at even less rates than we have assumed in our former estimates of that business. The reduction from one and one-third cents per ton per mile, as claimed in former reports, to a fraction less than one cent, will enable us to deliver coal at the depot in Cincinnati at 6¼ cents per bushel, drawn from the Western limit of the coal fields, *a distance of* 112 *miles*. The same rate would place the *entire coal area, stated above*, at the command of Cincinnati, at the *average* rate of 7¼ cents.

The consumers of coal in that city, by relying *exclusively* upon the Ohio river for a supply, are now paying 14 cents per bushel. At the rates of the Baltimore company, her annual supply for many years may be drawn from the Jackson mines, and be placed at the depot in that city, by the M. and C. railroad, at one half that price—to which one cent should be added for cartage. It is stated that the city now consumes 16,000,000 bushels, or or 500,000 tons per annum, which at 14 cents, amounts to $2,240,000; the same quantity at 8 cents amounts to $1,280,000—showing a difference, in cost to the city, in one year's fuel, of $960,000. This is the annual tax the city of Cincinnati has imposed upon herself, by allowing the fickle waters of the Ohio to *control* the supply of this article—to be her *master* instead of her *servant*.

The road has been constructed with especial reference to the transportation of coal, and the citizens of Cincinnati will be secured against all the exactions of the river trade by the completion of the M. and C. road before the 1st of Dec., 1853.—The $150,000 voted by the citizens of Cincinnati, will, the directors believe, be speedily placed at their disposal to bring about this end.

The policy of the road is very fully discussed, on this subject the directors state:

Cincinnati does not need to be connected through our line with Philadelphia and New York, other roads being built for that purpose. Her interest, therefore, with us, is almost exclusively a Baltimore interest, and will be fully provided for by the connection of our line with the Northwestern Virginia road. But a large portion of the business and travel from Southern Ohio, including that which may be thrown upon our track from the South, is destined for Philadelphia and New York. Besides the prospect of securing through the Pennsylvania Central railroad, greater economy of transportation over shorter distance for this trade, another prominent inducement, to favor the extension of this road from Marietta to Wheeling, is found in the connection thus to be formed with the cities of Wheeling, Steubenville, and Pittsburgh:—by the Cleveland and Wellsville line, with Cleveland and the Lakes;—and, at no distant day, by the Alleghany Valley railroad, with the great New York and Erie line at Olean. Those cities with surrounding towns and villages, are engaged more extensively in manufacturing, than any others of similar size west of the mountains. They constitute the nucleus of Western manufactures, rapidly enlarging, and with unfailing sources of power, and easy access to supplies, will maintain a constant and vigorous ascendancy for years to come. Southwestern Ohio, Western Virginia, and Northern Kentucky have a large interest in establishing a direct and uninterrupted intercourse between the manufacturer and the customer.

The lower Ohio Valley is also dependent upon the upper tributaries for that indispensable article, pine lumber, all creating an immense current of travel peculiarly belonging to the Valley.

The Board have steadily maintained the position of an independent line, endeavoring to secure for Southern Ohio the best outlet to the Eastern cities—at the same time to become a link in the great Southwestern railway chain between those cities and Cincinnati and St. Louis. This position may not suit the mere local interests of either Baltimore or Philadelphia; but every *Ohio* interest is certainly best served in having a choice of routes over the mountain barriers to the Atlantic, thus commanding that competition for their business which is the only safe regulator of tariffs and rates of transportation.

In the extension of our line to Wheeling, and a connection with the Northwestern railroad, every interest in Southern Ohio is made to harmonize, in their contributions to the construction of the road. Cincinnati is accommodated with her most direct line to Baltimore. Both Eastern cities may enter the Southwest in even-handed competition, for a business large enough to gratify the most sanguine expectations of either; and will, in their railroad connection with this company, find a party having a common and cordial interest in affording to each the requisite accommodations.

The report goes on to point out the objections to the construction of a competing line across southern Ohio, and shows the needlessness of such a project to both the cities of Cincinnati and Baltimore, between which cities the M. and C. road is a link, and that no local interest in that section of the State of Ohio would be likely to undertake the enterprise. Baltimore has secured by the construction of the Belpre branch a connection with Cincinnati, besides a valuable tributary from Columbus, a connection by way of Dayton with Indianapolis and the northern sections of Indiana and Illinois. Cincinnati has secured her coal trade and its transportation by one strong railroad on cheaper terms than two competing roads could afford. No local interest will build a competing line, and, if they did, foreign capitalists would hardly come forward to the support of the measure when its rival is already advanced nearly to completion.

After alluding to the difficulties of their task in building a first class road over an uneven surface and collecting the basis of a large credit from many points of weak pecuniary strength, the directors conclude by congratulating the stockholders on the certain success now awaiting their efforts.

St. Lawrence and Atlantic Railroad.

This road which is now open from Montreal to Richmond, is to be further extended to Sherbrooke, near the line of Vermont, on the 11th September.—Lord Elgin will unite in the ceremony, and will leave Quebec by steamboat on the preceding evening for Montreal, and disembark at Longueil in the morning. A special train will leave immediately on his arrival, passing over the St. Lawrence and Atlantic railroad to Sherbrooke, where the party will dine.—*Portland Argus.*

A Large Train.

The Schuylkill Haven *Miscellany* mentions a train of 211 *loaded cars*, brought over the Mine Hill and Schuylkill Haven railroad, some days ago, by the locomotive No. 10. The coal weighed 975 1-20 tons, this added to the weight of cars (515 8-20 tons) makes a total weight of 1590 9-20 tons at one draught; the heaviest ever hauled over the road.

Railroad Suspension Bridge at Niagara Falls.

Although we have already given the outlines of this bridge, yet, the importance in a scientific point of view of Mr. Roebling's report fully justifies our reprinting it entire.

Report of John A. Roebling, Civil Engineer to the Directors of the Niagara Falls International and Suspension Bridge Companies.

Your bridge will form a single span of 800 feet, from center to center of towers. It is to serve as a connecting link between the railroads of Canada and those of the state of New York; and it is also to accommodate the common travel of the two countries.

The question of the practicability of a suspension railroad bridge has been variously discussed. Some of the most eminent engineers have decided against it. Mr. Robert Stephenson, among others, made a report upon the failure of a railroad suspension bridge in England, and used it as an argument against the application of suspension chains for crossing the Menai Straits. In this report, this eminent engineer does no justice to the question; his only aim appeared to be to remove the objections, which were raised by the advocates of the suspension principle, against his own plan of a tubular bridge.

Whenever necessity calls for new works of art, new expedients will be discovered adapted to the occasion. It will no longer suit the spirit of the present age to pronounce an undertaking impracticable. Nothing is impracticable, which is within the scope of natural laws.

The principles which have guided me in the planning of your work, are exceedingly simple, and do not involve any intricate question. The only real difficulty of the task appears to be its novelty. Two principal considerations present themselves: that of strength and stiffness. In regard to strength, it is not only admitted by all parties, but established by ample experience, that good iron wire, if properly united into cables or ropes, is the best material for the support of loads and concussions, in virtue as well of its great absolute cohesion, which amounts to from 90,000 to 130,000 lbs. per superficial inch, according to quality and fineness, as on account of its high degree of elasticity, which in good hard drawn wire approaches that of steel. To support a heavy weight, nothing safer can be employed, than a well-made wire cable or rope. It is not only the strongest, but also the most economical. The second question is that of stiffness. Wire cables, if large, well made, and compactly wrapped, possess a considerable degree of stiffness, but too little to be taken into account in the present case. We can depend upon cables only for support and must apply other means for producing stiffness. There are three different modes for obtaining stiffness.

1. By using girders and heavy timbers, longitudinally, in the construction of the floor.
2. By trusses.
3. By stays.

The plan of the double floor bridge, which you have adopted, provides two girders in the uppper floor, of a depth of four feet for the immediate support of the railroad track. This is a very important feature in the construction of any railroad bridge; it serves to distribute the pressure upon any one point over a greater length, and thereby prevent short impressions and undulations. Such girders would alone be sufficient for moderate spans but larger ones require trusses besides. Since you have decided in favor of a double floor, the upper one to be used for the railroad, the lower one for common travel, a very good opportunity has offered for doubling the trusses, and of adding another valuable feature, that of the box or tube. Your bridge will form a hollow straight beam, of 20 feet wide and 18 feet deep, composed of top, bottom and sides. The upper floor, which supports the railroad, is 24 feet wide between the railings, and suspended to two wire cables assisted by stays. The lower floor is nineteen feet wide in the clear, connected with the upper one by vertical trusses, forming its sides, and suspended to two other cables, which have ten feet more deflection than the upper cables. The mechanical principles upon which the trusses I have devised for this bridge, act, is

not new, but universally applied. On inspection of the plan, you will observe posts, in a vertical position, 5 feet apart, firmly connected with the upper and lower floor beams. Any pressure upon the upper floor will, by these posts, be transferred upon the lower, and vice versa. With the exception of these and a light bridging between, there is no other timber to be used in this truss. Its stiffness is to be obtained from wrought iron rods of one inch diameter, and 27 feet 4 inches long, which are placed diagonally, nearly at right angles to each other, and always connecting the upper and lower end of the first and fifth post. The ends of these rods have screws and nuts, and are screwed up as tight as the strength of the posts will permit. The result of this is a high degree of rigidity and stiffness. The vertical action of any one post is by these tension rods transmitted to two other posts, 40 feet apart.

This plan recommends itself not only on account of its great stiffness, but also on account of its great lightness, and freedom from all timber joints and connections. Consequently no working or opening of joints can take place. The manner in which the posts are framed and connected with the upper and lower floor, and the fact that the rods are only exposed to tension, insure the true vertical plane of the trusses; they are not exposed to the danger of drawing out of line.

All the timber used in this structure, is to be well seasoned, planed, and well painted. The upper floor will be treated like a ship's deck, caulked and painted, it will therefore serve as a complete roof for the lower work.

The trusses are so open that they present but little surface to the action of the wind.

The upper floor stays will be a great additional support to the upper cables, and will add materially to the stiffness of the structure. These and the lower floor stays, which I propose to put up, will in connection with the trusses and girders, produce a degree of stiffness, sufficient, I feel confident, to admit of the passage of the heaviest trains at full speed, without producing any injurious vibrations. The ordinary speed of trains however, is to be limited to five miles per hour.

THE ANCHORAGE

Will be formed by sinking 8 shafts into the rock 25 feet deep. The bottom of each shaft will be enlarged for the reception of cast iron anchor plates of six feet square. These chambers will have a prismatical section, which when filled with solid masonry, cannot be drawn up without lifting the whole rock to a considerable extent. This resistance is further increased by the weight of the superincumbent masonry. My calculations satisfy me, that the pressure upon the anchor plates will be met with a resistance equal to the ultimate strength of the cables, or equal to five times the maximum tension to which they can ever be exposed. To these anchors massive iron chains are attached, which rise vertically through the rock, form a curve in the anchor masonry, and connect with the wire cables at the level of the coping. Each chain will be 66 feet long and composed of 8 links, each link to be formed of 7 or 8 plates of an aggregate section of 72 superficial inches of solid wrought iron. The links connect by means of bolts turned off to 3¼ inch diameter, and passing through eyes accurately bored out. The plates will be forged out of the best quality of charcoal blooms, and in one piece without a weld. By the curvature of the chain, a part of its tension is transformed into pressure upon the wall, and will be supported by large cut stone blocks. The chains and pins will be well painted, and embedded in grout, composed of cement, lime, and sand.

SADDLES

Of cast iron will support the cables on top of the towers. They will consist of two parts, the lower one stationary, the upper one moveable, resting upon wrought iron rollers of three inches diameter, accurately turned off, and fitting against the faces of the upper and lower plate, which are to be planed off true. The rollers will admit of a slight motion of the upper saddle, whenever the balance of tension between the land and suspension cables should be greatly disturbed. The saddles will have to support a pressure of 600 tons whenever the bridge is loaded with a train of maximum weight.

TOWERS.

They are sixty feet high and fifteen feet square at the base and 8 feet square at the top; therefore the top course on which the saddle rests, has a surface of 64 square feet. The compact, hard limestone, which will be used in the masonry of the towers, will bear a pressure of 500 tons upon every foot square. The strength of the towers to support the above weights can therefore be depended upon. As regards their lateral stability, I rely solely upon their own weight and the great pressure they have to support, which pressure will ordinarily act in a vertical direction through the centre of the masonry.

WEIGHT OF BRIDGE.

Weight of timber	919,130 lbs.
" Wrought iron and suspenders	113,120 "
" Castings	44,332 "
" Rails	66,740 "
" Cables between towers	535 400 "
Total weight of superstructure	1,678,722 "

As the ends of the bridge rest upon the rock and are firmly connected with the masonry of the abutments, the trusses will support them for *at least* 40 feet, independent of the cables, and together with the loads. Suppose the ends were not suspended to the cables for 100 feet from the center of tower toward the center of the span, but only supported by the abutment at one end and at the other end by the cables, then, I say, there would be strength enough in the trusses to support themselves and loads. The length of bridge being 800 feet from center to center of abutment, there are only 700 feet actually supported by the cables, and 100 feet by the abutments.

Reducing the above weight proportionally, it leaves the weight of superstructure, as far as supported by the cables, 1,564,391 lbs., or 782 tons of 2,000 lbs. each.

WEIGHT OF RAILROAD TRAINS.

One locomotive of 30 feet length weighs, say	25 tons.
27 double freights cars, each 25 feet long, and of 15 tons gross weight	405 "
Make total gross weight	430 tons.

which will fall upon the cables, when the whole bridge is covered by a train of cars from end to ned.

Add to this 15 per cent. increase of pressure, as the result of a speed of five miles per hour, which is a very large allowance, or ..... 61 tons.

Makes total	491 tons.
Add weight of superstructure	782 "
Total aggregate maximum weight.	1,273 tons.

Since the grading of the two railroads will scarcely permit trains to be run of the weight and magnitude above assumed, we are certain that the above maximum can never be exceeded.

TRANSIENT LOADS.

The area of the lowest floor, as far as supported by the cables, is... 700×19=13,300 superficial feet.

Suppossing the floor covered with a crowd of people, and allowing 3 superficial feet for each person,

There could be placed upon the floor... 4433 men,
Which, at 140 lbs. would weigh..... 620,620 lbs.
Or..... 310 tons.

There is, however, no necessity to calculate the strength of the bridge for maximum loads upon both floors. In case an unusual crowd of persons should at any time collect or cross upon the lower floor, there can be no necessity for passing heavy trains over the upper floor at the same time. They can be stopped until the lower floor is cleared, and vice versa. With gates at the two ends of the upper floor, this rule can always be enforced.

CABLES.

There will be four wire cables of 9¼ inch diameter each. Two will be suspended with a deflection of 54 feet for the support of the upper floor. The other two will extend down the sides of the trusses, for the support of the lower floor, with a deflection of 64 feet. Average deflection is 59 feet. When a train of cars enters upon the bridge, the upper cables will at once be taxed, but the pressure will, at the same time, be transferred upon the lower ones, so that they will always act in concert. The reason why I do not deflect the outside cables still lower, is because their harmonious action would thereby be disturbed, on account of unequal contraction and expansion, which would take place either in consequence of changes of temperature, or of the depressing action of great transitory weights. The calculations I have made to that effect, have satisfied me, that I may extend the difference in the deflection to 10 feet safely, but no further.

The tension of the cables, which would result from a weight of 1,273 tons, and an average deflection of 59 feet, is

$$1273 \times 1.76 = 2240 \text{ tons.}$$

Since the above assumed maximum tension can but rarely occur, I consider it ample to allow four times the strength to meet it; or,

$$4 \times 2240 = 8960 \text{ tons.}$$

But assuming 2000 tons as a tension to which the cables may be subjected more frequently, I propose to allow five times the strength to meet it, or to provide for an ultimate strength of

10,000 tons.

The Act of Parliament calls for an ultimate strength of 6,600 tons, for which your former engineer allowed 10,000 wires of No. 10. Now, the best charcoal wire, drawn to No. 10, or measuring 20¼ feet for every pound, cannot, upon an average, be depended upon for more than 1,333 lbs.; or at the rate of 1½ wires per ton of 2000 lbs. Being myself engaged in the manufacture of wire, and of wire rope, and having ample experience in the construction of wire cables, the above rate of strength, as the result of my own experience and tests, may be depended upon as correct. The usual mode of testing wire by weights is not to be relied upon.—Common wire, made of puddled anthracite iron, will frequently exhibit the same strength as wire made of good cold blast charcoal iron.

But the difference is in the uniformity, and this can only be examined by suspending a long wire say 400 feet, freely between posts, and reducing its deflection by gradually hauling in the one end by means of a capstan, until it breaks; the tension being the result of its own weight. By noting the deflection, the strength of the wire may then be calculated in pounds for any size or per superficial inch. Thus tested, the wire of course will break at the weakest point, and common puddled wire will thus show its inferiority to good charcoal wire.

Assuming an ultimate strength for the cables and stays of 10,000 tons, we shall require 15,000 wires of No. 10 to construct them.

At each end of the upper floor, the upper cables will be assisted by 18 wire rope stays, and their strength will be equivalent to 1,440 wires, these deducted, leave the number of wires in the four suspension cables, 13,560; No of wires of one cable, 3,390; diameter of cables, 9¼ inch.

REMARKS ON A SINGLE FLOOR BRIDGE.

My original estimate for a single floor bridge was made out for a floor of 30 feet wide between the railings, viz:

For railroad track in center	6 feet.
" Two tracks for common travel a 7 feet	14 "
" Two footwalks, a 4 feet	8 "
" Space occupied by cables	2 "
Total between railing	30 feet.

On such a floor the common carriage travel could not be passed, while the track is occupied by a train, and vice versa, it would therefore only accommodate a limited business.

To render the railroad independent of the common travel, we should want a width of floor of no less than 39 feet between the railings, viz:

For railroad in center	13 feet.
" 2 tracks for common travel, a 8 feet	16 "
" 2 sidewalks	2 "
" 2 cables	2 "
Total	39 feet.

The entrance upon this floor between the towers would have to be at least 32 feet, and in consequence an arch would be necessary, to connect them, for the support of the center cables. The two outside cables would fall upon the shafts of the

towers. We should want gateways of large dimensions, no less than 65 feet by 30 at the base, with abutments in proportion, and a mass of masonry three times as great as what is wanted for the double floor bridge. To preserve the character of the work, the wings would have to be carried up to the abutments. The great width of floor, would require heavier crossbeams, these with trusses underneath, which could not be dispensed with, would rather increase than diminish the weight of the bridge. All this satisfies me, that a single floor bridge of the above dimensions would cost considerably more than the double floor bridge.

The appearance of the double floor bridge will not be so beautiful, as that of a single floor, with imposing gateways, erected in the massive Egyptian style, and joined by massive wings, the cables watched by sphinxes, with parapets, and all the rest of the approaches, put up of appropriate dimensions and in suitable style. The double floor bridge, when viewed from the upper floor, where all the foot passengers will resort, will, however, present a very graceful, simple, but at the same time substantial appearance. The four massive cables, supported on isolated columns of a very substantial make, will form the characteristic of the work, and this will be unique and striking in its effect, and quite in keeping with the surrounding scenery.

Niagara Falls, July 28th, 1852.

Ohio Railroads.

The Ohio and Mississippi railway company are now actively engaged on their line, and vigorous measures are in progress to push the work to Lawrenceburgh. The number of hands at work is daily increasing. As soon as the road reaches Lawrenceburg it will begin to pay, for there it unites the railway constructing, and nearly done, from Lawrenceburg to Indianapolis, which, in this connection, will bring passengers hither from Indianapolis and many of the central and most populous counties of the state of Indiana. The president of the Ohio and Mississippi road is confident that by January, 1854, we shall have the cars running from Cincinnati to the Jeffersonville road—crossing most of the important north and south roads in Indiana. The city is looking with great interest to this road, for next to the road from Lexington to Knoxville, opening all the south, the Mississippi road, is the one to bring us a large and new trade.

The Covington and Lexington road is progressing with great vigor. The sickness that drove away many hands from the line, abated some time since, and the work is now pushed forward with unabated ardor.

The Little Miami railway has nearly completed the arrangement for their new track below Fulton street, through which the track is now run. By the new route this street will be avoided for the whole distance, except from five to eight hundred feet, near the Water works, to pass which they have to come on the street. A large gang of hands are now at work clearing the new track and in about four months the new line will be ready and Fulton relieved of the trade and cars. The company are about to erect on the Kugler block, also, a large and handsome passenger station house.

The Cincinnati, Hamilton and Dayton company are about to derive a great advantage from the completion of sundry roads now soon to connect with theirs. The Greenville road will soon make its western connection, so as to carry us to Indianapolis in less than twelve hours. The company west of Dayton have made most advantageous arrangements and combinations, and the cars will soon be on their track. The road from Springfield to London will soon be opened, and enable passengers to reach Columbus and Cleveland as speedily as by the more eastern track. This road is to be opened in a month or so. The recent arrangements for a road from Hamilton, through Oxford, and thence with the junction road to Indianapolis it is expected will succeed. A large freight is now coming down from Eaton, and the passenger list is and has been large beyond expectation. The laying of the T rail on the Mad river road to Sandusky will soon be completed. The Hillsboro' road in a week or so will be in full and complete running order, and thus increase the business of the Little Miami road. —*Cin. Gazette.*

Texas Internal Improvement Convention.

We have already noticed the meeting of this body; we now propose to give an outline of the proceedings, and the conclusions to which the Convention arrived. The magnitude of the plan, and the future wealth of the State, seem to require a record of its first step in Internal Improvements.

The Convention assembled at Galveston on the 14th July. Dr. Wm. R. Smith was elected President, Col. M. B. Menard, Gen. E. B. Nichols, and Edward Hill, Esq., Vice Presidents, and Messrs. W. H Goddard and Oscar Farish, Secretaries of the Convention.

A committee of thirty, of which L. Sherwood, Esq., was chairman, was then appointed to report a plan of internal improvement for the State. At the request of the committee, the Convention adjourned, subject to the call of the President, till such time as the committee should be ready to report. On the 24th July the Convention re-assembled. and the following propositions were submitted in the report of the committee:

1. The construction of Internal Improvements by the State; such improvements to be kept under its exclusive supervision and control; but companies and individuals allowed to engage in the transportation of property and passengers upon them, under such exactions and regulations as may be prescribed.

2. The establishment of a State Internal Improvement Fund, to be kept separate and distinct from the general, school, and all other funds of the State, and faithfully applied to the prosecution and support of internal improvements.

3. The organisation of an Internal Improvement Board of Commissioners, to consist of the Secretary of State, the Comptroller, Attorney General and five acting commissioners; the acting commissioners to have the personal charge and superintendence of the public works, subject, however, to the direction and supervision of the whole board.

4. The construction of four great lines of railway, so located as to accommodate, as far as practicable, each section of the State; and adjusted with reference to future railways necessary to be engrafted upon them—the location and plan of said railways to be nearly as follows:

Commencing at Galveston, crossing West Bay at the most commodious point; thence, running to the head of navigation on Buffalo Bayou, at Houston; thence, northward, through the eastern part of Montgomery county; thence, across the Trinity river, and northward, by the most commodious route, to Red river.

A branch casting off in Montgomery county, and running northward between the Trinity and Brazos rivers.

A branch casting off the Galveston road near the head waters of Highland Bayou, running thence to the Brazos river and crossing near Columbia; thence, up the valley of the San Bernard, and between the Brazos and Colorado to the capital of the State.

A branch casting off the latter road, crossing the San Bernard and Colorado, and running westward on the most commodious route, to San Antonio.

The construction of the said railways to commence at the coast and be prosecuted first to the points where all the branches cast off: then, the four roads to be contemporaneously prosecuted to completion, equal distances as near as may be, until the Southwestern road shall reach San Antonio; the Western road, the State capital; the Eastern road, Red river; and the Northwestern road, an average distance with the other roads from Galveston.

5. The improvement of the inside coast navigation by canals, and the removal of obstructions, so as to afford complete steamboat navigation for river boats from the Sabine to the Rio Grande; also, the improvement of our navigable rivers.

6. The interest on all loans effected for the purpose of internal improvements on the credit of the State, and the interest on all loans contracted for the payment of previous loans, to be faithfully and fully paid by taxation, and from year to year as the same shall accrue. As an additional assurance and security, the present surplus of two millions or more, and its increase, to be added to the internal improvement fund, invested in United States stocks, and pledged to the public creditor for the faithful payment of interest. These provisions both to be secured by amendments to the constitution.

7. After satisfying all just claims against the public domain, fifty million acres of the public lands, or the proceeds of their sale, to be attached to the internal improvement fund, and secured to it by fundamental law.

8. All revenues to arise from internal improvements, after paying expenses of superintendence and repairs, to be set apart as a sinking fund for the exhaustion of the principal.

9. That for the purpose of proposing amendments to the constitution, so as to allow the State to embark in the construction of internal improvements; and for the purpose of proposing other amendments to carry out an internal improvement system, to be adjusted and fixed by fundamental law; we recommend the call of an extra session of the Legislature, to be held as early as January next.

The principal objections urged against the plan were its magnitude and the agency of the State government in it. These the committee thus dispose of:

In answer to the first of these objections, the committee are constrained to say: something less in magnitude would have been proposed, had it been thought that less could have harmonised the popular will. Your committee could not bring themselves to the conclusion that State unanimity could be produced, without proposing the four great trunks of railway indicated in the plan. They could not well avoid proposing a road running the entire route through eastern Texas; another, between the Trinity and Brazos; another, between the Brazos and Colorado; and another west of the Colorado. The construction of one of these roads would afford little advantage to the people or property on the line of another. To apply State bounty to one, to the exclusion of another, would be unjust and a fruitful source of discontent. To overlook the improvement of our river and inside coast navigation would be equally unjust and equally unwise.—Your committee, from these considerations, have felt themselves constrained to recommend the largest scheme practicable, as being the least that can command public unanimity in its favor.

The objection to internal improvements by the State has been carefully considered by the committee. The argument in support of this objection has been mainly urged as a question of economy; on this assumption, that corporations can make outlays in the construction of internal improvements to better advantage than States. In considering this argument, your committee have turned their attention to the particular incidents connected with the construction of railroads. In Texas, it is assumed that nearly one half of the cost of constructing railways, will be the expenses of iron. To purchase this to advantage, requires money only, not skill. The timber furnished must be of a particular description and quality, with specifications for it embraced in the contract. In contracting for it, nearly as much skill and knowledge would be necessary as is required to make a bill of lumber for a common dwelling house. In building the necessary bridges, the custom of both States and corporations is, to let them by contracts, with full specifications also. Why State commissioners should necessarily err in letting such contracts, more than corporation agents, your committee cannot well conceive. In grading railway tracks, the prices for excavation and embankment by the cubic yard, whether of common earth, clay, rock or quicksand, are as well established as the prices of staple cotton goods; and your committee are unable to see why State commissioners need be wanting in any necessary knowledge on these subjects. In short, the supposed mystery in the incidents of constructing roads and bridges has not appeared very formidable to your committee, or led to the belief that State commissioners would find much difficulty on the score of knowledge or economy.

In the management of railways after their construction, it is believed no difficulty would exist.—It is not proposed that the State should engage in

transportation. That, as in all similar cases would be left to associations of individuals. In forming transportation lines, if the roads are operated with locomotive power, it would require large outlays of capital, open however, to free competition of companies. All the State would do, would be to construct the roads, keep them in repair, establish its superintending police under strict regulations, and receive its tolls on transportation, by way of revenue. The same rules as to the incidents of running cars, time of arrival and departure, would necessarily be adopted, whether the road was owned by the State or a corporation.

The committee scout the idea that the citizens of the State are not sufficiently intelligent to comprehend the advantages of the plan, and lend it a support by submission to the annual taxation required to keep down the interest on the loans made for the purpose of its completion.

In estimating the increase of public property, consequent on the construction of the proposed improvements, your committee believe that the one hundred millions of acres, left the state after the satisfaction of all just claims, would be enhanced in value many times beyond the proposed outlay of $15 000,000. Under a wise and steady system of internal improvements, it becomes almost impossible to calculate the vast increase of state wealth and state resources. So many considerations cluster to the support of a well balanced internal improvement policy in Texas, that your committee cannot conceive the people of the state so wanting in thoughtful forecast, as not to improve to the utmost their advantages. Your committee are of the belief that a commencement must be made, that a wise commencement may be made, and that the present is propitious for the adoption of some prudent and safe system.

After a parallel between the north and south, on the subject of the prosecution of internal improvement, the report concludes by saying—

The domestic policy of the state, directed by prudence and firm energy, should be the absorbing consideration of all her citizens. We need not wait as long as other states have waited; we are ready to begin now. We need not be embarrassed as other states have been embarrassed in finance. We may lay the plan that shall carry us through in safety. Texas is in a situation to emulate the modern impulse of Georgia, Alabama, Louisiana, and Virginia, tempered with the prudence and perseverance of Massachusetts. Texas has the greatest work to accomplish. It behooves the people to be wise in the beginning. Texas is full of the elements of state credit, state progress, state greatness. Our people should accustom themselves to reflect upon, and familiarize themselves with, the manner in which these can be made available. When this is wisely done, internal improvement plans will cease to be formidable, and our citizens will wonder that their accomplishment is so easy.

Accompanying the report, the committee also submitted an address to the people of the state, which was adopted by the convention, as well as the report. It strongly recommends the assumption of these works by the state. In the language of the address:

We see but one way for Texas to engage successfully at present, in the construction of railroads —ONE BASIS ONLY, THE STATE CREDIT. We entertain the opinion, that we shall come to this resort at the end; and we are as firmly of the conviction, that the sooner we associate the energies of the people with the power and credit of the state, for the construction of railways and other public improvements, the better it will be for us. We are in favor of the state's constructing and owning its railroads and other internal improvements. In our opinion, there are more reasons and more healthy example for, than against this proprietorship. We confess to more confidence in the power and integrity of the state, than in corporations. The one has resources extending to future generations—the other has not. The one has no motive to rapacity in conflict with the common interest—the other may have. The one will be active in seizing on thoroughfares most profitable—the other will be governed by the policy of equally diffused benefits. Facilities for settling the remote parts of our country will be the policy of the state, but not of corporations.

Were it practicable to engage associated capital to any considerable amount, in the construction of railroads in Texas, it requires no foresight to know the principle on which the locations would be made. The profitable routes, only, would be occupied for many years. No regard would be had to any general plan of adjustment. The greater portion of the state would remain unprovided for, far into the future, and much of it gain nothing on the score of accessibility. The equitable basis for the location of railways in Texas, should be made analogous to the transportation of the mails, and collection of the revenues for the Union. The routes producing revenue should assist in paying sectional deficiencies. With as much reason might the post office and important revenue collected within the state of N. Y. be given to the state, as that one part of Texas should be made to yield profits to R. R. corporations, while the larger portion of the state remained unassisted. The state is untracked, as yet by a single completed railroad. Our judgment is that the state ought to keep in its own hands the adjustment of a great system, commensurate with its present and future requirements, always having in view the most liberal plan of equalized benefits.

It is easy to foresee that Texas cannot long hold together, unless bound by some equitably adjusted plan of internal improvements. As population and business increase, it feels more and more deeply sectional inconveniences and causes of disquietude. Many already consider the state too unwieldy, and assign as a reason, that sectional interests cannot be brought to harmonize. Supposed inability to acquiesce in some general measure, is fast producing impatience, and we may rest assured, that neglect of action, or inefficient action, will increase the sentiment in favor of division.

The credit of the state is insisted on as well from its extent and resources, as from its former independent position.

The State has already assumed an important position in the eyes of the world. She has something of an interesting reputation abroad. Texas, *as Texas*, has a history. Texas is known to the world as an Empire in extent. She has a public domain of more than 100,000,000 of acres. She has a population abounding more in actual wealth and natural resources, than any equal number of people on the globe. She is now receiving an accession to her substantial population faster than any other State in the Union. She holds out incentives to immigration, that, in their combination, are not equaled elsewhere. Her entire soil is a self-swarding, self-resuscitating soil, covered with nutritious grasses. Her numerous herds, unfed by the hand of man, indicate a wealth that runs wild. Her capacity for producing sugar, cotton, tobacco and other staples of the South, is equaled only by her capacity for grazing and for the production of fruits, corn and the cereal grains. We can refer to no country that equals Texas in agricultural capacity; and no country in America, whose climate equals her's in wealth and blandness of atmosphere. But while we refer to the vast extent of the State, the abundance of her resources and the incentives to immigration: it must not escape us that these are to be made available to us through the wisdom of a just and beneficent policy—a policy that shall separate the enterprise of our people from rashness; that shall bind the people in harmony of sentiment and action; that shall be steady and undeviating in its operation and certain in its results. Texas has too few in numbers to give efficiency to divided territory and population. She has too much to accomplish to allow of divided effort. If sectional tenacity shall be suffered to confuse the plans of action, nothing essential will be accomplished for many years. If the State hold together, and the people harmonize in concerted action and steady effort, there is no financial achievement, consistent with the vastness of its resources, which the State cannot accomplish.

The capital to be obtained by this pledge of State credit the committee believe will come from abroad, and be negotiated in the European markets, where the bulk of the National, State and railroad securities are held. A table of the leading Government and railroad stocks is given, with the market prices, and it is urged that Texas will have peculiar advantages both in cheapness of construction and profit in the operation of railroads.

In order to preserve this credit the address strongly insists on a system providing for the payment of the interest with scrupulous exactness.

As members of this Convention and citizens of the State, we propose *the construction of Internal Improvements on the credit of the State, and on the basis, that the people shall pay by taxation the interest, annually, on all loans effected for that purpose.* We are willing to make a permanent provision to pay the interest by taxation for the following, among other reasons:

First. It is necessary to any State, as a means to effect loans to the best advantage, and indispensably requisite to a new State.

Secondly. The people can well afford to pay an interest of five per cent. on the outlay, as far as the outlay enures to the benefit of those who pay it.

Thirdly. It is immoral, and inculcates public immorality, to adopt any step in public expenditures that is calculated to lead to public dereliction or repudiation.

Fourthly. It is not only unfair, but *mean* towards posterity, for us to take the benefits of public expenditure, and throw the burden of both principal and interest on our children.

Fifthly. The payment of interest on all loans by taxation will operate as a touchstone to test the question, whether Internal Improvements are beneficial in proportion to their burden, and whether the use of them is worth the interest on the money they cost.

Sixthly. The burden of annual and annually increasing interest, would be a safeguard against the abuse of Legislative power in authorising imprudent and hasty expenditures.

Seventhly. The continually increasing burden of interest would incite the people to stringent watchfulness over the public agents entrusted with the expenditure and disbursement of the public monies.

The provision for the certain payment of interest, as a means of creating, containing and keeping fortified the public credit, so as always to be able to command what money we want, when we want it, and at the cheapest rate, is, and ever will be, the main point on which our success depends. Texas may run through hundreds of millions in providing and disbursing monies, before the State is accommodated in its facilities for travel and transportation; for we have an empire to be provided for.—The time has passed by, if it ever existed, when States can go headlong in effecting loans as principal, and loans to pay interest. Capitalists have grown astute in discerning the real basis of increase in public debt. It has become their business to look into Legislative proceedings, public expenditures, debt, resources, taxation, and every feature, in the financial ability and policy of States. They calculate results with almost mathematical precision; and the rise and fall in public credit are controlled and influenced by the judgment of the interested and experienced. No State in the Union, however great its resources, has yet proved powerful enough to hold good its credit against the disapproving judgment of the public creditor. He, of all persons, reasons most astutely from cause to effect, in estimating the strength of public credit, and its duration under pressure of adverse circumstances. No Legislative imprudence or folly can escape his notice—no Legislative or financial subterfuge can avoid his detection. It is the consideration of millions that sharpens his scrutiny.

After a review of the history of Internal Improvements in New York and Pennsylvania and the policy of lending aid to corporations—the address concludes by the following recommendations.

The first step necessary to enable the State to contract debt beyond $100,000, is an amendment of the constitution. It is unnecessary to discuss the propriety of placing the interdict in the consti-

tution. It may have been wise at the time. The country had but just emerged from Revolution.—The State was feeble in its finances. Much public debt was outstanding. The people were in no situation to embark in any system of Internal Improvements, nor in any position to lay the basis of an advantageous public credit. Great changes have since transpired—changes that wonderfully alter the financial capacity of the State. We have now the ability to use the public credit to advantage. Not a State in the Union, whatever may be its population, equals Texas in its basis of public credit. In the proposed measure of abrogating the constitutional restriction, we see no danger. We think more rational checks on legislative imprudence may be devised: something less stringent than to bind down both Legislature and people. We trust our fellow citizens will not be disposed to keep the Star State a "fixed star." We trust, also, they will be disposed to use the power and credit of the State for the purposes of State beneficence. We will join our fellow citizens in adopting all necessary checks, restraints and provisions in the fundamental law, that may be necessary to guard against imprudence, to hold us to the true policy, and keep us from the pathway of danger. So far we advocate constitutional restrictions on the legislative power. Beyond that, public policy, we think, requires that we should not go. We therefore recommend the call of an extra session of the Legislature, to propose the necessary amendments to the constitution.

The New Crystal Palace in London.

The New York exhibition building will still have a rival in the re-erection of the London palace on a rather less extensive scale of mere area, but improved in its details of general effect. Still, as a work of art, we think the New York edifice will compete favorably with the Transatlantic pal ace. The following is the description of the London building, given in the Times.

The site chosen for the re-erection of the Crystal palace is an irregular parallelogram of 300 acres, extending from the Brighton railway, where it has a frontage of 1,300 feet; between the Sydenham and the Anerley stations, to the road which borders the top of Dulwich wood, where it has a frontage towards the road of 3,000 feet. The fall from this point to the Brighton railway is 200 feet. It was at once felt that the only position for the new building was on the summit of this hill, and immediately adjoining the road. The building placed in this commanding position will be visible from London on the one side, and from a vast extent of country on the other. In consequence of the rapid fall of the ground an additional story became necessary on the park front of the building, and this will remedy a defect universally felt in the old building, viz., the little elevation of the front.

By the choice of this site, also, a complete change became necessary in the external character, of the building. What in Hyde Park had been the side, here became the front. The great length of the old building prevented it being comprehended in one view; it was therefore shortened by 240 feet. A transept similar to the transept of the old building was placed at each end, and a centre transept, with a vast circular roof 120 feet in diameter, rising majestically over the circular roof of the nave. The transepts, with their aisles, advance from the main line of the building and thus form a most majestic group; at the intersections of the roofs of transepts and nave will be low towers, adding immensely to the general effect.

A further improvement of vast importance, was the introduction of arched recesses at the ends of these transepts, 24 feet deep; that of the centre transept 194 feet high and 120 feet wide; those of the side transepts, 150 feet high and 72 feet wide.

The improvements which have been made in the interior are not less important, independent of the vast additional effect afforded by the increased height of the nave (14 feet higher than the old building.) Advantage has been taken of the necessities of the construction of this important feature to add greatly to the artistic effect of the interior.

In the old building the effect was secured by the simple repetition of two elements a column and a girder, and although great grandeur was thus obtained, it may be said that there was hardly sufficient variety, and the full effect of the vastness of the structure was not entirely realized. At the extreme ends of the buildings the columns and girders fell so rapidly one on the other that the eye had no means of measuring the length; this defect had to be remedied in the new building, and it has been done in this wise—the column and girders do not keep to one line as before, but every 72 feet, pairs of columns, twenty-four feet apart, advance eight feet into the nave, and from these columns spring arched girders, eight feet deep in lattice work of wrought iron, which support the longitudinal girders of the roof. These advancing columns are tied together, and thus form groups of pillars, like those of a Gothic cathedral. These groups occuring every 72 feet down the nave, thus furnish the eye a means of measuring the building which it had not before.

As regards the contents of the building it has already been announced that the whole of the sides of the nave, transepts, and the divisions on either side between the several courts will be lined with the plants and trees of every clime, interspersed with statues and works of art. On the north-east side of the building will be arranged the historical galleries of sculpture and architecture, with casts of the finest works of sculpture, and portions of buildings of ancient art. On the south-east side will be displayed similar collections of mediæval art; while in the north and south-west portions of the building as well as the whole of a 24 feet gallery round the building, will be devoted to the purposes of exhibition. The machinery will be placed in the lower story on the park side, in a gallery 24 feet wide, extending the whole length of the building.

Bidery, a Metallic Alloy used in India.

The following account is taken from Professor Royle's lecture on the great exhibition of an interesting alloy manufactured in India.

This compound has been named Bidery, from Bider, a city situated about sixty miles to the north-west of Hyderabad, and of which we have had a variety of articles at the exhibition. Most of these nave been greatly admired for the elegance of their form as well as for the gracefulness of the patterns with which their surface is engraved. Though the groundwork of this composition appears of a blackish color, its natural color is that of pewter or of zinc. Dr. Heyne informs us that it is composed of copper sixteen ounces, lead four ounces, tin two ounces. These are melted together, and to every three ounces of the alloy sixteen ounces of spelter, that is of zinc, is added, when the alloy is melted for use. But to give the whole the black color which is esteemed, probably from bringing out the pattern, it is dipped into a solution of sal ammoniac, saltpetre, common salt, and blue vitriol.

Dr. B. Hamilton saw of zinc 12,360 grains, copper 460 grains, and lead 414 grains, melted together, and a mixture of resin and bees wax introduced into the crucible to prevent calcination. It was then poured into a mould made of baked clay, and the article handed over to be turned into a lathe. Artists then inlay flowers or other ornaments of silver or of gold. They first rub it over with sulphate of copper and water which gives the surface a blackish color, and enables the artist more easily to distinguish the figure which he draws,—this he does with a sharp pointed instrument of steel, and cuts it with small chisels of various shapes, and then with a hammer and punch fills the cavities with small plates of silver which adhere firmly to the Bidery. It is then polished and stained as described above. The various articles made from it are vases, wash-hand-basins and ewers, hookah-bottoms, spittoons, cups and dishes, small boxes and weights. These are inlaid commonly with silver, but sometimes with gold. The patterns are usually as much to be admired as the forms of the vessels. Though usually called Bidery, sometimes Vidry, it is also manufactured at other places. Specimens have been sent both from Bider and Aurungabad, in the Nizam's territories, from his Highness the Nizam and his minister Siraj-ool-Moolk, which are peculiarly beautiful. Some also from north-west India and from Bengal; the latter, however, was inferior to the others in workmanship. Bidery does not rust, yields little to the hammer, and breaks only when violently beaten. According to Dr. Hamilton it is not near so fusible as zinc or tin, but melts more easily than copper.

Louisiana.

New Orleans, Jackson and Great Northern Railroad.—The board of directors of this road are pushing forward operations with such spirit and energy, that the fruit of their labors will soon be made apparent in the rapid progress of the important work, in the completion of which this city is so largely interested. In this behalf, we have learned a few items of intelligence, which will no doubt be interesting to our readers.

Mr. James Clarke is chief engineer of that portion of the road between New Orleans and Jackson. He has two corps of engineers assiduously engaged in locating the route between New Orleans and the Mississippi state line. It is believed that Mr. Clarke will have the route between the city and Pass Manchac accurately surveyed and located within twenty days, when plans specifications, etc. will be immediately prepared, and contracts advertised for.

Mr. Winchester, with an efficient corps of engineers is rapidly locating the road between Canton and Aberdeen, Mississippi.

Mr. James H. Grant, chief engineer of the road between Jackson, Mississippi, and Nashville Tennessee, notified the board of directors, a few days since, that he would on the 20th instant commence the location of the route between Florence, Alabama, and Aberdeen. He is now, in all probability engaged in pushing forward the work.—*N. O. Bulletin.*

New Orleans, Opelousas and Great Western Railroad.—This company is pushing onward its business with great energy. The board of directors have been actively engaged for a week past, holding daily meetings of the body of its committees. They have located sixty seven miles of the road, starting from the main depot in Algiers, and passing up the river nineteen and a half miles, thence taking the ridge of high land south-westwardly from the Mississippi, (south of lake des Allemande,) and crossing the Bayou des Allemande and striking the high lands of the Lafourche thirty-seven miles from Algiers—thence crossing the Lafourche at fifty-one miles, and passing through the western limits of the beautiful village of Thibodaux, and thence to the high lands of Chuohoula to Tigerville, on Bayou Black, the head of steamboat navigation, the whole distance being 67 miles.

The location and construction of the road to this point is very important, as it developes the whole of the Lafourche, Terrebonne, and Bayou Black country, forming steamboat connection at Tigerville for the Attakapas and Bayou Teche country. By the immediate construction of this section of the road, (which it is the desire of the company to have completed in time to bring out the sugar of the next years crop) an outlet for the sugars and molasses will be secured. The sugar produced last year in this region was over 100,000 hogsheads, and 250,000 bbls. of molasses. The freight heretofore paid has been from $3 50 to $4 50 per hhd. and from 75c. to $1 25 per bbl. for molasses. Besides the advantages secured by the immediate construction of this section of the road to the planters of Attakapas, Terrebonne and Lafourche Interior, etc., a direct communication will be formed for steamboat navigation from Tigerville to all the watering places and islands along the gulf and the Atchafalaya bay. These watering places are destined to be the finest, most agreeable and healthful of any in the United States.

The chief engineer, Mr. Gibbs, with his assistants, will proceed immediately in the execution of the detailed survey, in order to have it ready for contract by the 1st of October. Great reliance is placed in the talents and energy of this able corps of engineers that the work will be completed at the earliest moment—perhaps before the time alluded to.

Judge Overton, the indefatigable and talented president, we understand, will leave the city in a day or two, accompanied by the general superintendent Col. Payne, to canvass the parishes along the line of the road, preparatory to the submission

of the question of tax subscriptions to the people, for the necessary sums to complete the road to the Texas boundary. The city having subscribed $1,500,000 by taxation, the parishes are pledged to an equal amount, to which sums add a million of dollars by private subscription, will complete the sum $4,000,000, the amount required to construct the road three hundred and twenty-four miles, to the crossing of the Sabine into Texas.

The company have bought a tract of land for a turn-out and depot, on the boundary line between the 1st and 4th districts, for the accommodation of the upper part of the city, but the principal or main depot, with all the engine shops, machine shops, and car shops and houses are to be located in Algiers, as has always been the intention, from the first outset of this great enterprise.—*N. O. Com. Bulletin.*

Union Track and Depot at Indianapolis.

There is, perhaps, at no other city in the United States, so perfect a connection of the different railroads, as at our capital. No fewer than eight leading railroads centre here, radiating to every part of the State, of an aggregate length, with their State connections, of over *eleven hundred miles*, all of these when constructed, may be directly tied together, by the Union track, and the interchange of freight, and passengers, between the several roads may be carried on by steam, without delay, and without inconvenience to passengers, or cost to transportation. This Union arrangement has received the sanction, and protection of the Legislature, by a general law at the last session, making it applicable to all other cities and towns where two or more roads connect in business. It is due to the men who projected the system, and have thus far carried it into effect, that it should receive more than a passing notice. The Union track is located across the eastern, and southern sides of the city. The Madison road comes in from the South, the Lawrenceburgh from the South-east, the Centre from the East, the Bellefontaine from the North east, the Peru from the North, the Lafayette from the North west, the Terre Haute from the West, and the New Albany from the South-west. Each road may have a separate freight depot, connected with the main double Union track by a turn out and switch, the track to these depots will, with the Union track, be the common property, constructed at the joint cost, and maintained and cared for at the common expense, of all the companies interested in the Union arrangement. Near the centre of the city, running from Meridian to Illinois streets, three squares south of Washington street, the Union passenger depot building is located on the Union track. This building is now being erected, and will be completed this season. The building is of brick, with rock foundation, 420 feet by 100 feet, with five tracks for passenger trains inside, and two tracks for the passage of freight trains outside. The building will be surrounded by streets on the north, east, and west, and by an open area on the south of sixty feet. The rooms for passengers will be in the north side of the building, next to the Union track. This will be the largest, and most ornamental building, of the kind, in the State, while the plan will afford to passengers arriving in the different trains by day and by night, every facility to take the cars in the same building on any desired line. The whole arrangement is to be governed by the Presidents of the companies interested, who by the late act of the Legislature, form the Union board, and if properly managed must prove highly advantageous to the public, as well as to the companies interested.—*Indianapolis Locomotive.*

Indiana.

Indiana and Bellefontaine Railroad.—We learn that the Bellefontaine railroad is completed about eleven miles east of Muncie, sixty-five miles from this city—leaving only nineteen miles of track to lay, which the contractors are pushing on with a heavy force, at the rate of about two miles per week. This road will be completed in November, by which time the Ohio connection to Cincinnati by Greenville and Dayton will be ready to open the through line—then look out for a change in the line of trade from the east to the west, and between this city and Cincinnati.—*Indiana Locomotive.*

New-York.

Buffalo and New York Railroad.—The following lettet from Mr. Magraw, the president of the Baltimore and Susquehanna railroad, in answer to an invitation to attend the celebration of the opening of the Buffalo road, points out the relations which the road holds, as a North and South link between Buffalo and the Lakes and Baltimore and Washington.

OFFICE BALT. & SUS. R. R. Co.
BALTIMORE, August 23, 1852.

RUSSELL H. HAYWOOD, ESQ.
Prest. B. & N. Y. C. R. R. Co.

Dear Sir: I am in the receipt of your much esteemed favor of the 18th inst., being an invitation to attend the celebration of the completion of the "High Bridge" across the Genesee river at Portage, and the opening of your road from Attica to Hornellsville on the 25th inst. I have watched with interest the progress of your work, particularly the erection of a bridge over the Genesee river at Portage, which may truly be regarded as a work of the age, and one which in an eminent degree reflects credit on the mind that conceived, as well as the hand which executed the work. The completion of your road will give the New York and Erie railroad, a proper terminus on the Lake. Buffalo has been, is now, and always will be the "City of the Lakes," and it is therefore in my opinion essential to the future success of that great work that it should have an unbroken connection with that city, and which is now secured through the completion of your road. But permit me to say that this is not the only important feature in the location of your road; a glance at the map will exhibit it as the Northern link in the chain of railway connecting the National capital with Buffalo, the Northwest and the British Possessions, a work essentially national in its character. Commencing at the seat of Government, dividing by a direct line the States of Maryland, Pennsylvania and New York, and terminating at the Canadas, covering a distance that can be easily overcome in a single day. To perfect this great work, only one hundred and fifty miles remains to be finished—that section is between Harrisburg and a connection with your road. The friends of this Southern link of this chain, (between Baltimore and Harrisburg,) are taking steps to have the line between Harrisburg and Williamsport put under contract; the section between Williamsport and the N. Y. and Erie road remaining unprovided with the means requisite for its construction.

I regret that official engagements previously made will prevent me from being present on so interesting an occasion as the celebration of the opening of your road. Tendering my thanks for your polite invitation.

I am yours, most respectfully,
R. M. MAGRAW.

Maine.

Railroad from Bangor to Lincoln.—The citizens of Bangor have been making a movement towards opening railroad communication northward, along the valley of the Penobscot to Lincoln, some forty miles. This is the route by which they supply the greater part of their lumbering operations, nine-tenths of these supplies being, as we are informed, conveyed on the present country road. A card from some of the most substantial citizens of Bangor has been issued, stating their intention to aid in prosecuting the enterprise, and on Thursday a mass convention was holden at Lincoln, which was well attended, notwithstanding the stormy weather, and the proceedings of which were unanimous in favor of the measure and solid aid was promised in its favor from thriving towns on the Aroostook river. Many of the Bangor gentlemen connected with the enterprise believe there is no doubt about the opening of a railroad to connect them with the west either at Waterville or Augusta, and they thought it most proper to lend their efforts towards strengthening the communications with their own customers and friends above them. Meanwhile, the excitement produced by the two organisations to control the Penobscot and Kennebec railroad, is likely to forward that undertaking, so that it is confidently expected that operations will be commenced at an early day upon the road to Waterville. At the latter place, on Tuesday evening, over $40,000 were subscribed to the stock.—*Boston Courier.*

South Carolina.

South Carolina Railroad.—As the next business season approaches, it becomes a matter of great and general interest to know what preparation the railroad has made to meet its ever increasing demand for means of transportation. On this point we have received some valuable information. Of new locomotives there have been received and put on the line, four; six are already on shipboard or landing, and two are due on the first of November, making twelve in all. Six new passenger cars have been received, or are on the way.

Of freight cars there have been received since the 1st of January last.....149
To be received before 1st of January next... 50

Making the whole outfit in freight cars, box and platform, from 600 to 650.

The general condition of the road, as we had an opportunity of seeing a few days since, is good, and the new cut, avoiding the in lined plane at Aiken, which has so greatly simplified and facilitated the transportation, is working as well as its best friends could desire.

There are other causes of prosperity to the R. R. speedily to be developed. The tax on the passage of the Savannah river is now to be removed, and the road will very soon be extended into Augusta. Our business with that city will then be placed on a new footing, and cannot but be greatly augmented. Even now, goods landed in Charleston one morning have been delivered in Augusta the next.

The extension of railroads in the upper part of the state, is another cause of increase, already sensibly felt, and to be much more widely felt the coming season. An immense region, heretofore shut out from all but the most difficult and costly communication with Charleston, is soon to be brought within twenty-four hours' pleasant ride of us, and a safe, certain and swift transportation of produce and goods established between regions that were before separated by more than the delays and risks of the Atlantic ocean.

With such a tide of business setting towards our city, it is gratifying to know that the railroad is prepared to do its part.—*Charleston Mercury.*

Galena Lead Mines.

The amount of lead shipped from Galena and other ports annually is about 42,000,000 pounds, according to the register kept in the city of Galena. This amount would be $4 per cwt, the price there worth $1,780,000. The number of miners actually at work does not exceed 2,000, which would show an average of $890 for each man. Now deduct $90 for cost of working and smelting the mineral, and we have the large average production of $800, an amount of prosperity indicated of which no other country can boast. The lead business which for a few years has been declining, is daily becoming more active, and confidence in the mineral resources of this region is continually increasing.—Not one acre in one hundred of the mineral lands has been scratched with the pick or spade, and all the leads (lodes) heretofore worked, lie within a few feet of the surface. Beneath the water, there is every reason to believe, far more extensive deposits lie yet to be explored, when the necessary capital shall be invested in machinery for raising the water. It is currently reported that mineral has been discovered beneath the sand rock which underlies the lead-bearing limestone hitherto worked. If this be so, the mines must rival those of Cornwall in depth and extent. Whether this be so or not, one thing is certain; and that is the fact that all the lead raised up to this time has been raised from very small patches of ground, while the land for miles adjoining lies in its native beauty untouched.—Some of the largest lodes have been struck immediately upon the surface, and most of them within a few feet.

Lead is not the only valuable mineral found there. The most productive ores of zinc and copper, the sulphuret and carbonate of zinc, and the sulphuret of copper everywhere abound. Wherever exploration for lead has been made, more or less of these metals has been discovered. Thousands of tons of

zinc lie to-day upon the surface, for the very good reason that it interferes with the working of lead mines, and is neglected because in the absence of coal, it cannot yet be profitably smelted. It is popularly known there as Dry Bones and Black Jack. Sulphate of iron is found in sheets of large extent, ranging from a few inches to several feet in thickness.

American Railroad Journal.

Saturday, September 11, 1852.

Comparative Safety of Railroads.

The recent melancholy disasters and destruction of life on board steamboats, have excited very general attention to the subject of these accidents, and the comparison in the relative safety of railroads and other modes of conveyance, especially river steamboats, seems fast settling in favor of the railroad as vastly superior in this respect. No topic is more deserving of a rigid analysis than the preservation of human life, and the earnest investigation of the dangers which menace it, and their preventives and remedies is not only of the highest interest but a positive duty. It is, by no means, our intention to extol one mode of travel in a spirit of boastfulness, or point out for selfish interests the manifold dangers of another. This would not only lead to injustice, but would work a double harm, by inducing on one side that careless security which is the most dangerous enemy on the railroad, and beget in those entrusted with the management of an inferior conveyance that recklessness and indifference which is equally fatal.

The comparison is, however, if fairly made, a very proper one, and recent distressing events have forced it on the public mind. At the first glance it would have been thought that the dangers of the two methods, of locomotion by steam on land and water would be analogous in their character—more points of difference than resemblance will be found. Travel by steamboat is certainly one of the most agreeable modes of locomotion. You are not restricted to one seat, you can walk into the open air, select a cool and shady spot, converse with ease and pleasure, read without difficulty, and enjoy the view of passing scenery at a rate which permits the sight of objects and allows the mind to dwell on its beauties. The speed of steamboats, though inferior to that of the locomotive and train is at all events respectable. A rate of from eight to fifteen miles on the Mississippi and western waters, and from ten to twenty on the Hudson and coast steamers passes the traveller rapidly and most agreeably to the place of his destination. Besides he is able to dine, sup and breakfast, and sleep comfortably while on board. In all respects the steamboat resembles a moving hotel, and if no outward accident happens, the journey is filled with pleasant associations, and the distance has been insensibly glided over with fewer annoyances than are connected with any other method of travelling.

But the question recurs, and just now with fearful import, are steamboats safe? And if the series of accidents of the last few weeks continues, the steamboat would be universally condemned as hazardous in an eminent degree, and prudent persons would chose to travel by railroad, even if they had to pay an extra amount as the fare of an equal mileage. The ratio of hazard to life and limb is vastly greater on board of the steamboat than on the car. The first striking difference is the wholesale carnage which accompanies an accident on the former. The entire loss of life on all the railroads of the United States for a year, is exceeded by the deaths of any one of the recent steamboat disasters. While individual care and prudence on board the rail car operate as an almost perfect safeguard, on the steamboat, the carelessness of each passenger must be gross, or almost suicidical to endanger his personal safety. This is a remarkable difference between the two, and it cannot be too strongly impressed on the railroad passenger, that his life is in his own hands, that if he avoids danger, if he abstains from moving about, does not thrust any portion of his person from the car, does not cross the track, does not stand on the platform, etc., he enjoys a comparative immunity from peril.

On the rail car, the dangers from storm are very trifling, except so far as they may injure the track or break its continuity. It would be a waste of time to do more than allude to the fatal accidents caused by storms and inadequacy of the structure of the hull which have taken place from the time of the ill-fated "Home" to the present time. River steamboats are less exposed to this violence than those which navigate the coast; but it is an element of danger avoided almost altogether on the track, unless we imagine the possibility of a tornado or whirlwind descending on the train while in motion, and wrecking the cars by its fury. It will be seen that the risk in one case is large, in the other is next to nothing.

Danger from fire is possible on a railroad, and the fatal accident on the railroad between Paris and Versailles is a case in point, but we believe that no accident of this kind accompanied by loss of life has occurred in the United States, and the only one in England we remember was the death of the Countess of Zetland's maid, in consequence of the travelling carriage taking fire while carried on a truck. The numerous casualties of this kind on board steamboats and their wide spread fatality are well known. The construction of iron or other fire proof car would reduce the chances of this species of risk on the railroad to an absolute zero.

The danger of explosion is common to boilers of all steam engines, but the chances here of safety are altogether in favor of the railroad. The boiler of the locomotive is smaller than those of steamboats generally, and contains vastly less water and steam; the explosion, if it took place, would be in the open air, and the only danger to those at a distance would be from the projected masses of the boiler. The risk from scalding steam and water is much less than on board steamboats, especially those containing the huge boilers of the condensing engine. The boiler of the locomotive is less exposed to risks of explosion from a variety of causes. The collapse of a tube is not so dangerous as that of a large flue. The locomotive boiler is in continual view, and the fires are open to inspection and notice. Any defect hence is more readily perceived and remedied. The use of the locomotive tends to show these defects, and protects to a certain degree the parts from corrosion and rust.

The risks of danger are diminished and the chances of escape increased by the cars being separated from the engine, on the same principle as it was proposed to make the steamboat tow a safety barge in which the passengers were to be carried. The cutting up of the train into a number of cars, though perhaps rendered necessary by other conditions operates in diminishing the risk. In the steamboat all on board are nearly equally exposed to risk, and forethought strength and skill make very little difference in favor of their possessor.

On the railroad there are few temptations and provocatives to racing, there can be no rivals among the trains and engines of the same road. The time is predetermined and the engineer has his prescribed limits, which it is as much a disobedience to transgress in one direction as the other.

A few obvious differences in favor of the railroad we have pointed out for no selfish ends and to satisfy no prejudiced feelings, we desire standard of care and the respect due to human life to be raised everywhere, and our sole motive is to urge the proprietors of both steamboats and railroads to greater precautions for the protection of their passengers.

It is a shame that more attention is paid to this subject in despotic countries then here, and a larger degree of watchfulness is there required than is generally practiced in our country. The responsibilities assumed by the owners of these vehicles of public travel is very great, and not only the value of their own property but the lives of their fellow citizens are at stake. Thus far our steamboat travel, though so pleasant, has proved itself really dangerous to a degree that may excite well grounded fears of personal safety in a prudent man, and a preference for the rival means of conveyance.—Unless means are at once taken to eliminate these risks, only the inferior grades of travel will be left to the boat and it must become entirely secondary to the more safe and rapid method of transit by the railroad.

Wisconsin.

Madison and Prairie du Chien Railroad.—The Crawford county Courier of the 11th August, publishes the charter of the Madison and Prairie du Chien R. R. company, and gives notice that books for subscriptions to the stock of said company, will be opened at Prairie du Chien on the 15th inst., and at Madison on the 22nd inst. The sum of $100,000 must be subscribed to authorize the organization of the company.

Kentucky.

Covington and Lexington Railroad.—The Common Council of the city of Covington passed an ordinance on the 26th August, authorising the president of the board to endorse the bonds of the Lexington and Covington railroad company to the amount of $200,000. This act is under the authority of a law of the State, which made the endorsement conditional on obtaining the consent of a majority of the votes of the city. The petition presented to the Common Council praying for the passage of the ordinance, was signed by a majority of the voters of the city.

Shelbyville and Harrodsburg Railroad.—We are authorised to say that the whole section of the Harrodsburg railroad, from its junction with the Frankfort railroad, near Hobb's Station, to Shelbyville, is under contract, that a considerable number of hands are now at work upon it, and that the number will immediately be increased to two hundred. Engineers are at work between Shelbyville and Harrodsburg with a view to the location of the route.—*Lou. Jour.*

Ohio and Pennsylvania Railroad.

The following are the earnings for the month of August last.

Receipts from passengers		$23,836,04
" "	Freight	8,614,21
" "	Mail service	1,044,45
Total		$33,494,80

Which is an increase of 32 per cent. on the receipts of July.

The number of passengers carried in August, was 25,305.

Missouri.

A veritable railroad is now in active operation within the limits of Missouri, and doing a thriving business; illustrating, moreover, the results of kindred enterprises on a grander scale, by building up a town! We have heretofore mentioned that Mr. James R. Allen, was engaged in constructing a road six miles long, on his own hook, from Farmville mills to the Missouri river, in Ray county. The work is now finished, and the cars are running.

Massachusetts.

Palmer and Amherst Railroad.—A large and spirited railroad meeting was held in Amherst on Monday last. The first section of the road from Palmer to Amherst is all graded, with the exception of a small place in the latter town, and the rails will probably commence to be laid at Palmer in a short time. In regard to the section from Amherst to Montague, commendable spirit was manifested to carry it through as soon as possible. The stockholders voted that the directors go forward and make the necessary surveys and location as soon as funds could be procured.—*Boston Courier 7th September.*

Stock and Money Market.

For the past week the fancies have been rising and the slight stringency in the money market has been entirely removed. Though the Steamer of Wednesday took out considerable gold the exportations of specie have not been so heavy as the average. The money market is perfectly easy, and though the current rate of call loans is 5 per cent., a lower rate is in many instances taken. The monthly reports of the leading roads show that an excellent business is doing on all the roads, a steady advance is seen, and the estimates are generally exceeded. These are convincing evidences of the real character of investments based on the security of these corporations.

Thursday, 2nd September.—Stocks remained pretty much in the same position, if anything, slightly falling from the closing price of the day previous. quite a large amount of shares changed hands. Erie closed at 86¼. Harlem at 73. Hudson R. 69¼. Stonington 60¼. Norwich and Worcester 54. Reading 93¼. Long Island 24. Heavy orders for the last named stock have been received during the last few days from Philadelphia. The coal and mining stocks generally seemed firm. Investment railroad stock and bonds are also firm. New York and N. Haven was sold at 113¼. Michigan Central railroad 113. Michigan Southern R. R. 121¼. Albany and Schenectady 106¼.

Friday, 3rd September.—The stationary and inactive character of the stock market continues, the ease with which money is procured gives the power to retain stocks which would otherwise be sold. Erie was 87. Stonington 60¼. Hudson River 69¼. L. Island 23¾. Reading 93¼. The increased receipts on the Hudson River have just given its stock a lift. $9,000 of Erie Income bonds sold at 98¼. $5,000 of Erie convertibles, 1862, at 99¼.

Saturday, 4th September.—No material change in the price of the various stocks sold in the market, though there was evidently more buoyancy of feeling. Erie sold at 89 at the close. Reading at 93¼. L. Island 23¾. Hudson R. 70¼. The recent accidents on the steamers have had a tendency to advance this stock. Stonington 60¼. A large amount of government and state stocks were sold at quoted rates.

Monday, 6th September.—To day considerable activity prevailed and prices improved, sales on time were made more freely than for some time past, which tended to keep up the general buoyancy. Erie was sold at 87½. Hudson River improved nearly 3 per cent., owing to the causes above mentioned, closing at 73. Harlem 73¼. L. Island 24. Stonington 60½. Norwich 54½. The Cumberland Coal Co. improved going to 72, in consequence of the recent advantageous purchase of the mines, etc., of the Maryland Co. Little was done in investment stocks, they were a shade lower than last week.

Tuesday, 7th September—The activity of the day previous continued though as usual there was a falling off in the afternoon. Erie closed at 87½.—Hudson River at 72¼. Long Island 24¼. Norwich and Wor. 54¾. Harlem 73¼. The coal stocks generally improved and the investment R. R stocks rose in price. Cent. Mich. 113. Mad. and Ind. 107½. Utica and Schenectady scrip 140. Southern Mich. 123, and North. Indiana 122. $26,000 of Kentucky 6's sold at 110, and other State and Gov. stocks were sold at full quotation.

Wednesday, 8th September.—The improvement in the leading fancy stocks maintains itself, and the premium stocks are firmly held with a slight advance over previous rates. Erie was sold at 87½. Harlem 73¼. Hudson River 72½. Long Island 25. Stonington 60. Nor. and Wor. 54¼. Reading 93¼. Government and State stocks were largely sold at full prices. We notice sales on time of Michigan Central at 114. Southern Michigan stood at 123. The steamer of to day took out $756,448, of which $500,000 was in gold.

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE

AMERICAN RAILROAD JOURNAL.

NEW YORK, SEPTEMBER 11, 1852.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	101¼
U. S. 6's, 1856	108¼
U. S. 6's, 1862	115
U. S. 6's, 1862—coupon	115¼
U. S. 6's, 1867	118¼
U. S. 6's, 1868	118¼
U. S. 6's, 1868—coupon	119
Indiana 5's	91¼
Indiana 2½	52½
" Canal loan 6's	95½
" Canal preferred 5's	48½
Alabama 5's	95
Illinois 6's, 1847	81
Illinois 6's—interest	54
Kentucky 6's, 1871	109
Massachusetts sterling 5's	——
Massachusetts 5's, 1859	——
Maine 6's, 1855	——
Maryland 6's	108
New York 6's, 1854-5	108¼
New York 6's, 1850-'61-'62	116
New York 6's, 1864-'65	118
New York 6's, N. Y., 1866	121
New York 5½'s, 1860-'61	108½
New York 5½'s, 1865	109
New York 5's, 1854-'55	105½
New York 5's, 1858-'60-'62	105½
New York 5's, 1866	110
New York 4½'s, 1858-'59-'64	101
Canal certificates, 6's, 1861	——
Ohio 6's, 1856	105½
Ohio 6's, 1860	109
Ohio 6's, 1870	115
Ohio 6's, 1875	116½
Ohio 5's, 1865	103
Ohio 7's, 1851	105½
Pennsylvania 5's	97
Pennsylvania 6's, 1847,-'53	91
Pennsylvania 6's, 1879	99½
Tennessee 5's	100
Tennessee 6's, 1880	107
Virginia 6's, 1886	110½

CITY SECURITIES—BONDS.

Brooklyn 6's	105
Albany 6's, 1871-1881	107½
Cincinnati 6's	103
St. Louis	96½
Louisville 6's 1880	95
Pittsburg 6's, 1869-1871	100
New York 7's, 1857	110
New York 5's, 1858-'60	103
New York 5's, 1870-'75	104
New York 5's, 1890	106½
Fire loan 5's, 1886	——
Philadelphia 6's, 1876-'90	104½
Baltimore 1870-'90	108
Boston 5's	102

RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	113½
Erie 2d mortgage, 7's, 1859	108½
Erie income 7's, 1855	98½
Erie convertible bonds, 7's, 1871	98½
Hudson River 1st mort., 7's, 1869	107½
Hudson River 2d mort., 7's, 1860	97½
New York and New Haven 7's, 1861	106½
Reading 6's, 1870	88½
Reading mortgage, 6's, 1860	94½
Michigan Central, convertible, 8's, 1860	110
Michigan Southern, 7's, 1860	100
Cleveland, Col. and Cin. 7's, 1859	114
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	102½
Ohio Central 7's, 1861	96

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Sept. 2.	Sept. 9.
Albany and Schenectady	107	107
Boston and Maine	106½	108
Boston and Lowell	—	109½
Boston and Worcester	104	106
Boston and Providence	89	90
Baltimore and Ohio	82½	83½
Baltimore and Susquehanna	29½	30
Cleveland and Columbus	—	—
Columbus and Xenia	—	—
Camden and Amboy	146	—
Delaware and Hudson (canal)	128	131½
Eastern	96	98
Erie	86½	87
Fall River	—	—
Fitchburgh	103	105½
Georgia	—	—
Georgia Central	—	—
Harlem	72½	73
" preferred	111½	111½
Hartford and New Haven	—	127
Housatonic (preferred)	35	35
Hudson River	69½	72½
Little Miami	—	—
Long Island	22½	25
Mad River	—	99
Madison and Indianapolis	112½	110
Michigan Central	113	113½
Michigan Southern	121	123
New York and New Haven	114	114½
New Jersey	134	134
Nashua and Lowell	—	—
New Bedford and Taunton	—	117
Norwich and Worcester	56	54½
Ogdensburgh	26	25½
Pennsylvania	46½	46½
Philadelphia, Wilm'gton & Balt.	32½	33
Petersburg	—	—
Richmond and Fredericksburg	100	97½
Richmond and Petersburg	35	35
Reading	94½	93½
Rochester and Syracuse	121½	123
Stonington	62	59½
South Carolina	—	122½
Syracuse and Utica	135	135
Taunton Branch	115	115
Utica and Schenectady	140	140
Vermont Central	14½	14½
Vermont and Massachusetts	20	23
Virginia Central	—	40
Western	104½	105
Wilmington and Raleigh	57½	57½

Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad Lanterns in another page.

Georgia.

Southwestern Railroad.—The Fifth Annual Report of the President of this company, L. O. Reynolds, Esq., to the stockholders, presents a statement of its operations for the year ending July 31, 1852. The road was opened on the 1st August, 1851.

The up freight (eastward) for the year.	$43,100	17
Down freight (westward)	37,777	27
Through passengers	28,960	37
Way "	17,056	19
U. S. mail	2,500	00
	129,395	00
The expenses for the year	57,859	83
Net earnings	71,535	17

The expenses are classified into:

Repairs of road, salary of superintendents, hands, etc	$16,354	75
Motive power and cars	12,799	97
Fuel and water	2,716	48
Transportation expenses, including salary of clerks, etc	12,732	95
Salaries of president and treasurer	3,101	67
Damage, stock killed, etc	4,645	69
Incidental	2,008	32
Interest, including interest on bonds	3,500	00
Total expenses	57,859	93

From the net earnings, a dividend of eight dollars per share has been declared.

This on 5,567 shares is	$44,536
Interest on bonds	7,000
Annuity to city of Macon	1,250
	52,786

Leaving a surplus of $18,749 17 to be expended on the road and its equipments, which will have to be materially increased in motive power and cars on the opening of the Columbus branch.

The business has been conducted with regularity and success; the travel averaged 116½ passengers per day, and the number of bags of cotton transported during the year is 45,476. The opening of the Columbus branch will add materially to this trade. An ample engine house and shops are in course of erection at the Macon depot. In the course of the fall the machinery and shops will be complete and adequate to effecting the repairs on the motive power. A general passenger station is now building for the accommodation of the business of the three roads meeting at Macon.

The Columbus branch is in rapid progress, and at the date of the report 580 hands were employed. The piers of the bridge over the Flint river were completed, and the trestle building through the swamp. The Muscogee company were pushing their part of the line, and expected to reach the terminus, 50 miles from Columbus, in November.

Surveys are now in progress for the road from Columbus to Opileka, on the Montgomery and West Point road, and it is expected to have that line under contract early in the ensuing fall; and from the known energy of the present head of the Montgomery company, a speedy completion of that important link in the line of improvements may be confidently expected. When this shall be accomplished, we shall possess the means of successful competition, for the through travel between the north and south, with any other line in existence.

The extension of the road further into the cotton region of Southwestern Georgia, has recently been strongly urged, and the board of directors of the Southwestern road have adopted a resolution to the effect, that on the subscription of $75,000, and the payment of 25 per cent at the time of subscribing by the people along the line, the company would issue bonds for $125,000, provided arrangements could be made with contractors to receive pay two-thirds in such bonds and one-third in stock of the company at par value. The object of these arrangements is the extension of the road to Americus, a distance of about 20 miles. This is considered an eligible spot for business, and a favorable point of departure, whether for the Flint or Chattahoochee rivers.

The following account furnished by John T. Boifeuillet, Esq., the Secretary and Treasurer, exhibits the state of the company's financial affairs:

RECEIPTS.

Received for capital stock, 5,567 shares.	$556,700	00
" Forfeited " 922 "	30,016	00
" Amounts overpaid	6	61
" Balance due contractors in stock	165	00
	586,887	61
Bond account, issued	150,000	00
Premium and discount on bonds and notes	1,626	66
Freight earnings since August 1, 1851	80,934	92
Passenger do	46,159	00
	127,093	92
Post office department	1,789	81
Central railroad freight and pass. ac't	4,813	82
Daniel Griffin (Columbus stage)	147	50
	$872,359	32

DISBURSEMENTS.

Construction	$667,180	76
Locomotive engines	$15,820 32	
Passenger cars	7,288 67	
Freight cars	32,915 15	
Macon depot	19,275 41	
Tools	1,045 28	
	76,344	83
Current expenses	48,465	08
Balance	80,368	65
	$872,359	32

Maryland Mining Company.

The property of this company was sold on the first September inst. in Cumberland. "The first bid was $335,000, which, after a few minutes, was increased by a second to $385,000. After this the trustees held a consultation, and, through Wm. Price, Esq., announced that they had concluded to bid $500,000. Whereupon David Leavitt, Esq., President of the American Exchange Bank of New York, in behalf of the Cumberland coal and iron company, bid $500,100, and thereupon it was struck off to the Cumberland coal and iron company.—This property consists in part of two tracts of land called the "Maryland Mining Company," and "Fountain Inn," located in one body, containing about 1,900 acres of land, a large part of which is underlaid by the great vein of coal, fourteen feet in thickness, likewise by many other veins, varying in thickness from two to four feet—the whole located in the very heart of the great semibituminous coal fields of Maryland, with mines opened at great expense, besides various other lots of ground, with the village of "Echart Mines" on the National road, near Frostburgh, containing about one hundred houses, of which seventy are dwellings, the rest shops for carpenters, blacksmiths, engineers, etc. Also, two railroads: one 9¼ miles long, extending from the mines to the Mount Savage railroad, which gives a continuous railroad connection to the Baltimore and Ohio depot at Cumberland; and another, one mile long, extending from the Mount Savage road to the property of the Cumberland Basin company, at Cumberland. These two roads originally cost $250,000. In addition to all this property, there were included in the sale a vast amount of personal property, such as locomotives, several hundred cars, carts, horses, oxen, wagons, farming utensils, machinery, tools, mining implements, etc., all for the sum of $500,100, an amount insignificant when compared with the original vast outlay, which must have been several millions of dollars. The Maryland Mining company, it will be remembered, failed some time since, and its affairs went into the hands of Trustees. Mr. Leavitt made the purchase for the Cumberland coal and iron company, who own the adjoining property.—The junction of the two estates under one ownership will, no doubt give a prompt impetus to the coal trade, as it will obviate the necessity of the Cumberland company building a new railroad, as they had proposed doing, and enable them at once to enter upon an active and extensive transportation of coal from their mines to the depots of the railroad and canal companies.

Ohio.

The following projects of roads are very earnestly advocated by the people of northern and northeastern Ohio.

The Painesville and Hudson railroad, running nearly in a southerly direction from Painesville, abont 39 miles, to Hudson, there to unite with the Akron branch, and ultimately forming a connection with roads quite direct through to Cincinnati.—The papers and people of Painesville are discussing this project with considerable earnestness, and, if carried out, the road cannot fail to benefit Painesville and business at the mouth of Grand River.—The country along the proposed road to Hudson, does not present serious obstacles to its construction.

The charter of the road provides that the capital stock of the company is to be $1 000,000; and the corporators, Storm Rosa, Benjamin Bissell, Aaron Wilcox, T. Rockwell and Seth Marshall, have given notice that books of subscription to the stock at various points on the line will be opened from the 20th to the 30th of September inst. If the capital stock is not then taken the books will be opened at Painesville, Buffalo, New York, Boston, etc., etc.

The Clinton line railroad appears to be the favorite enterprise with the people of Hudson, Public meetings have been held, and at the meeting on Saturday the Observer says "the books were opened and a large amount was immediately subscribed to the stock, and gratifying assurances of further subscriptions were given." It is proposed to construct a road from Hudson, of the N. Y. and Erie guage, to Olean, so that cars loaded in Hudson will run to New York without transhipment. The link to be built is about 130 miles. At the meeting Judge Humphrey stated that he had visited the towns along the line between Hudson and Pennsylvania, and gave a flattering account of the interest manifested. He had assurances from the friends of the project in Pennsylvania that the Eastern section of the line will be immediately commenced and prosecuted to an early completion. Crawford county, Penn., has already subscribed $75,000 to the capital stock of the road. Prof. Day stated that responsible parties were prepared to construct the road with the pledge of an early completion, and on the most favorable terms.—*Cleveland Herald.*

Liabilities of Telegraphing.

The last legislature of Maine passed an act making telegraph companies liable for error in despatches, either in transmission or writing out, to the amount paid for its transmission to its destination, both in and out of the state. In case of unreasonable delay to transmit or deliver, affecting the value of the despatch, the whole amount paid shall be refunded. Damages for falsifying a despatch from twenty to one hundred dollars. Operators, agents, clerks, and other officers are also held liable for any fraud committed or attempted by means of the telegraph.

Ohio.

Cincinnati, Hillsboro' and Parkersburg Railway.—We are informed, on reliable authority, that the board of directors of the above named company, at their late meeting in this city, instructed their engineer forthwith to prepare for contract 56 miles of their line from Hillsboro' to Jackson, there to connect the city with the coal and iron region, and that Mr. Morris, the engineer, will commence the work at Hillsboro' to day.

The board consider the financial condition of the company such as to justify energetic action and onward movement. They consider it beyond doubt that Baltimore will join hands with them on this important line, at the coal region, thus connecting the two cities of Cincinnati and Baltimore by the shortest route, over the line which Mr. Latrobe, the chief engineer on the Baltimore and Ohio road denominates "*The great coal railway of Cincinnati.*" —*Cin. Gazette.*

Cincinnati and Zanesville Railroad.—The western termination of this important road is at Morrow, about 35 miles this side of Cincinnati, where it connects with the little Miami railroad. It is 125 miles long, and terminates at Zanesville, where it connects with the Central Ohio railroad. At Zanesville it will also connect with the Akron branch road, now being rapidly constructed from Hudson via Akron, Ohio, to Zanesville, by means of which a railroad route from Cleveland to Cincinnati will be created, giving to the local business of this road a direct communication with Cleveland. The road completely and fully equipped, will cost not to exceed $20,000 per mile, or $2,500 000. Ninety miles, from Morrow to Lancaster, are now under contract, to be finished by October 1853.—*Cleveland Herald.*

Akron Branch Railroad.—We learn from the Huron Observer that twenty-three miles of the Akron Branch of the Cleveland and Pittsburg R. R. R., from the Ohio and Pennsylvania railroad to Millersburgh were let for grading and bridging last week at Millersburg. The bidding was very spirited, and the work was let at moderate prices to good contractors. The average price per mile was less than forty-three hundred dollars. The work north of the Ohio and Pennsylvania line is in vigorous progress.

Illinois.

Illinoistown and Belleville Railroad.—We learn that the board of directors of the Belleville and Illinoistown railroad company have concluded a contract with Messrs. Page & Bacon, bankers, by which the means will be furnished for the immediate construction of the road from Illinoistown direct to Belleville, a distance of 14 miles. The road is to be a first class road, and will cost, we learn, with full equipments, about $340,000.

Colonel Morrison, of Belleville, has been elected President of the board of directors.

The contract for building the road will be given to parties well known for their experience in these enterprises. The track will be laid with heavy T rails, and it is contemplated to have the whole completed in twelve months or less from this date.

This road will be of great importance to the interests of this city, as well as Belleville, and when extended into the interior of Illinois, which we learn is contemplated, will develop the resources of that rich region of the State.—*St. Louis Intel.*

Jacksonville and Alton Railroad.—We daily witness that a very general desire is felt by the people of Jersey, Greene and Morgan counties, for a railroad connecting them. The farmers, merchants, mechanics, and property holders, are very solicitous, and we believe are prepared to enter into the work most cheerfully and liberally. The people along the route know that something in this way must be done, to afford them market facilities, and to throw open their country to the travelling public. This road would pass through one of the finest sections of country, if not the finest in the State. The citizens are intelligent and wealthy, as a community and able to accomplish this undertaking, if properly entered into. The Illinois river has proved of scarce any benefit to this section, as regards transportation, the past two years, and the want of a thoroughfare is most directly and severely felt.

This road, it is urged by its friends, will connect with the Springfield and Alton road, at Brighton, and thus avoid the broken Piasa country. The road will be constructed over a smooth, level country, requiring no blasting, and but comparatively little grading. It is supposed that the road can be built at a less than average cost.

Some friends have assured us, that the feeling throughout Greene county alone is so strongly in favor of the project, that sufficient stock would now be subscribed in that section, to warrant capitalists to engage in it.—*Alton Courier.*

Brown county has decided, by 450 majority, in favor of taking $50,000 stock in the Northern Cross railroad.

Missouri.

We learn from W. Cole Bailey, Esq., that engineering corps are organized for the survey of this road, at both ends, and that it is expected to have 25 miles ready for contract at each end early in the fall. At the recent meeting of the president and directors in St. Josephs, they entered into a contract with Mr. Duff, a gentleman representing a Boston company to build the entire road, depots, locomotives, cars and everything complete, the work will be commenced at both ends of the route as soon as the locations are made, and to be finished in four years.

Pacific Railroad.—We learn that the county of Franklin has subscribed $50,000 to the capital stock of the Pacific railroad. This result has been obtained after a general canvass of the county, made by Capt. G. L. Nuckolls, of the Moselle iron works who is entitled to great credit for his exertions. Mr. Allen, president of the road, returned from the east last evening, in good health.—*St. Louis Republican.*

Maryland.

Baltimore, Carroll and Frederick Railroad.—The meeting of the commissioners of this road, which is designed to connect Baltimore with Westminster, Carroll county, and thence through Frederick Co., with Hagerstown Washington county, held in Westminster on 2nd Sept., we learn from the Carrolltonian, was not only largely attended but the spirit manifested was such as to augur most favorably for the prospects of the road. Notice was directed to be given that books for subscription of stock would be opened on Monday, the 11th of October, and kept open for the six succeeding days at the following places:—Baltimore city, at Barnums city hotel; Westminster at Moul's hotel; New Windsor, at the store of Mr. Jonas Ecker; Emmitsburg, at the hotel of Mrs. Agnew; Hagerstown, at Doyle's hotel,

The road is an important one, not only to those places which it will afford the means of communication with Baltimore, but also to our own city, to the trade of which it will prove a valuable auxiliary. Traversing a highly cultivated and wealthy agricultural country, and connecting with several points of local importance, there can be no doubt that the road would receive from its very completion a remunerative amount of trade and travel. The route which it is destined to pursue is highly favorable to railroad construction, whilst the bonus which the state has given in granting the right of way over that part of the Westminster road already constructed, will render the cost of the road but little over half what is ordinarily demanded for the completion of similar improvements.—*Balt. American.*

Portland Locomotives.

The Montreal Herald, of August 30th, says:—"We understand that the locomotive which conveyed the pic nic party to Melborne, on Thursday last, had been only a few days previous received from the works of the Portland Company, (Maine) and was then on her first and trial trip to Richmond. She is a noble specimen of workmanship, and performed her work admirably. She is said to be as fine an engine as is to be found in North America, and does credit to her manufacturers."

New York.

Lebanon Springs Railroad.—This road when finished, will complete the chain of roads leading northwardly, connecting the city of New York with the city of Montreal via the Harlem railroad. The Lebanon Springs railroad chartered by the state of New York, with its laterals, the Williamstown and Hancock railroad, chartered in Massachusetts, and the New York and Bennington railroad, in Vermont, form a line of 53 miles in length, and will cost in its construction and equipment the sum of $2,000,000. The company is organized, under the presidency of Moses V. Tilden, Esq.; Martin Green, chief engineer, and R. C. Root, secretary and treasurer. The following named gentlemen are directors: Geo. Baker, Gov. Morris, John Sharper, Philip Dater, Alexander Hamilton, Jr., Samuel H. Cornell, Samuel J. Tilden, R. C. Root, Saml. Wilbor, Benoni Sherman, Moses Y. Tilden, David Campbell and Alex. H. Holly.

The Tanneries of the United States.

From the vast and various mass of statistics returned with the late census, and now undergoing classification and condensation in the census bureau, the National Intelligencer has been favored with a complete view of the tanneries of the United States. The total number of establishments in the United States, is 6,263; capital invested, $18,900,557; value of hides prepared, $6,128,970; skins, $2,653,865; value of raw material, $19,613,237; number of hands employed, 20,909 males and 102 females; monthly wages, $416,214 to the males, and $970 to females; number of skins produced, 2,653,865; sides of leather, 12,257.940; aggregate value of annual products, $32,861,796. There are about 6,000,000 sheep goat, and other small skins tanned and dressed annually, which are not included in the above.

Baltimore and Susquehanna Railroad.

At the monthly meeting of the directors of the Baltimore and Susquehanna railroad, which was held on the 1st inst., R. M. Magraw, Esq., the president, resigned his office, and Robert C. Wright was appointed in his stead.

Mr. Magraw has held the office of president of the company for many years, and under his management its affairs have prospered, and the travel on the road greatly increased. His familiarity with the operations of the company, and the high ability with which he discharged the responsible post he held, must cause general regret at his resignation; but the company will not lose his services altogether, as Mr. Thompson, one of the directors on the part of the stockholders, resigned on the same day, and Mr. Magraw was elected a director in his place.—*Balt. Patriot.*

A Model Engineer.

Jeremiah K. Guile, an engineer on the Rochester and Buffalo railroad, commenced work for the company in 1837, and has run an engine up to the present time, more than fifteen years; has not lost more than three months time from sickness or other causes; has had but one passenger killed on his train, and he, in a fit of intoxication, fell from the platform of the cars while they were in motion; has lost one fireman (killed) by running off the old "strap rail" track; has been upon his engine 5475 days and nights; has run more than 488,000 miles.

East Tennessee and Virginia Railroad.

Washington county, Tenn., on the 14th August last, voted by a large majority to subscribe $50,000 in bonds to this company. The bonds are redeemable in thirty years, interest payable at the bank of America, N. Y.

The company have advertised for contracts for the graduation and masonry of the road from Jonesborough to Bull's Gap, embracing twenty-nine sections. The signs show that Tennessee will, without any avoidable delay, bring her road to the Virginia line, to conect with the Lynchburg and Tennessee road.

Height of Mt. Washington.

Mr. Goodwin, one of the engineers of the Atlantic and St. Lawrence railroad, has just completed the admeasurement of Mt. Washington, and makes it 6285 feet above the level of the sea. This accords very nearly with the altitude as given by other scientific men.—*Portland Advertiser.*

Notice to Contractors.

Sodus Point and Southern Railroad.

PROPOSALS will be received at the office of the Engineer, at Sodus Point, until Tuesday, the 5th day of October next, for the construction of the Sodus Point and Southern Railroad, including Grubbing, Graduation, Masonry, Bridging, and the laying of the superstructure, complete for operation.

Plans, Profiles and Specifications will be exhibited, and all requisite information given, at the office of the Engineers, on and after the 25th of September inst.

Contractors should be prepared to state what proportion of the stock of the company they will take at par in part payment.

The company reserve to themselves the right to let the work in items and sections, and in such manner as may appear most advantageous to their interests.

Dated Sept. 4th, 1852.

WM. D. COOK, President.

S. CUHER, Secretary.

To the Owners of Furnaces, Forges and Rolling Mills,

ENGAGED IN THE MANUFACTURE OF IRON IN NEW JERSEY AND ADJOINING STATES.

THE Subscriber proposes to sell, or lease for a term of years, his well known Iron Mine, at Suckasunny, in Morris County, State of New Jersey, situated nine miles from Morristown, and three from Dover.

Offers to purchase or lease the same will be thankfully received at the mine, till the first day of December next, by the subscriber.

MAHLON DICKERSON,
Suckasunny, N. J.

September 9, 1852. 2m

Oxford Furnace, N. J.

ESTABLISHED A. D. 1743.

THE Subscriber manufactures and keeps constantly on hand for sale. every variety and size of Railroad Wheels made from the celebrated Oxford Iron. All orders addressed to CHAS. SCRANTON, Oxford Furnace P. O., will be attended to promptly.

Sept. 11, 1852. 1y*

Old Railroad Iron.

PARTIES having Old Rails, either flat or any other pattern, suitable for re-laying or manufacturing, and wishing to dispose of the same for CASH, will please address G. H. WALBRIDGE Box 2250, Postoffice, New York City, stating *quantity, pattern* and *price*, at what seaport, and when they would be delivered.

New York, Sept. 11, 1852. 2t*

To Contractors.

PROPOSALS will be received at the office of the Alabama and Mississippi Rivers Railroad Company, in Uniontown, Ala., until the first of October next, for the Graduation, Masonry, Bridging and Cross-ties of said road, from the west bank of Valley Creek to Uniontown, 28 sections about one mile each. Bids proposing the entire payment, or a percentage thereof, in the stock of the road, will receive the most favorable consideration. Specifications can be seen at the office of the company in Uniontown, and also at the office of the Chief Engineer in Selma, Ala. J. J. DRAKE, Secr'y.

Uniontown, Ala., August 16, 1852. 4t*

Railroad Iron.

1,000 TONS, 56 lbs. per lineal yard, shipped, and to be shipped, from London in July and early in August, T pattern and of best quality.

Apply to DAVIS, BROOKS & CO.,

31st July. 1m

Locomotives and Machinists' Tools.

THE LOWELL MACHINE SHOP

IS prepared to execute orders for Freight and Passenger LOCOMOTIVES of different classes, with outside or inside Cylinders of approved design and faithful workmanship.

Also—

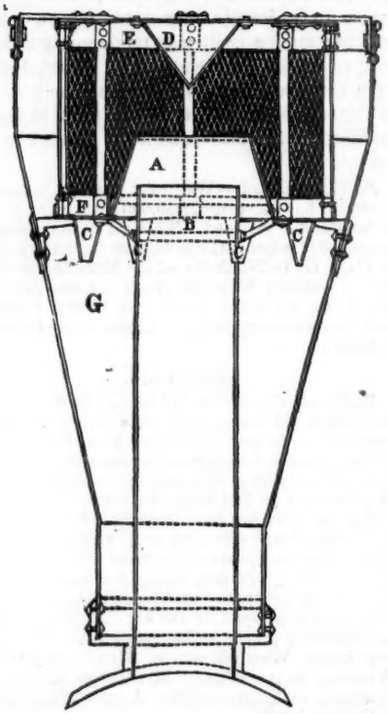
MACHINISTS' TOOLS,

with the latest improvements—consisting in part of Hand and Engine LATHES; VERTICAL DRILLING MACHINES; PLANERS; COMPOUND PLANERS; SHAPING MACHINES; SLOTTING MACHINES; BOLT CUTTERS; Machines for boring Crank Pin holes; Trip Hammers, etc., etc.

WILLIAM A. BURKE,
Superintendent.

Lowell Mass., August 23, 1852.

Matthew's Patent SPARK ARRESTER.



THE Patentee of the above named Spark Arrester invites the attention of Railroad Directors and Officers of Railroads, who have no other interest than the comfort and safety of passengers, and the economy of their company, to test them and judge for themselves. To all such persons, the Patentee will furnish his Patent Spark Arrester free of charge, by such parties sending the necessary dimensions. And the price will be, for the Spark Arrester and Chimney, with patent right to use and repair the same, all ready to place on the Locomotive, $130—if approved; if not approved, and returned, no charge made. He warrants them superior to any in use, *in all points, lighter, cheaper, more durable, safer, cleaner*, saving from 15 to 20 per cent in fuel.

The necessary dimensions to be furnished, are:

1st. The radius of the smoke box, on which the pipe sets.

2d. The height from smoke box to top of pipe.

3d. The diameter of cylinder and length of stroke.

4th. Whether a cut-off is used or not.

DAVID MATTHEW,
Penn st., (one door north of Almond st.,)
Philadelphia, Pa.

TESTIMONALS.

Office of the Syracuse and Utica R.R. Co.,
Syracuse, August 18, 1842.

This company have several "Patent Spark Arresters and Chimneys" upon their locomotive engines, which were furnished by David Matthew, constructed according to the specification attached to his patent.

They are by far the best smoke pipe and spark arrester that we have tried or seen.

No inconvenience from sparks or cinders is suffered by the passengers; nor is the draft impeded.

We consider them a great improvement, and regard them as almost indispensable in our business.

JOHN WILKINSON, President.

—

Office of the Auburn and Rochester R.R. Co.,
Canandaigua August 26, 1842.

This may certify, that there has been in use on the Auburn and Rochester railroad, for the last two years, eight of Matthew's "Patent Spark Arresters," which have given the most perfect satisfaction. From the use of the Arresters on this road, and what I have seen of them elsewhere, I have no doubt but that they are the best in use in the country.

R. HIGHAM,
Supt. and Engineer A. & R. R. R.

To DAVID MATTHEW, Machinist.

—

Auburn and Syracuse R. R. Office,
August 29, 1842.

Dear Sir—The three Spark arresters of your patent, which we have in use on our road, have given perfect satisfaction, and we consider them superior to any now in use, combining as they do the power of arresting the sparks and cinders, without affecting the draft of the engine. Respectfully yours,

E. P. WILLIAMS, Superintendent.
M W. MASON, Supt. of Machinery.

To DAVID MATTHEW, Esq.

—

Rochester, August, 1842.

We, the undersigned, have used D. Matthew's Patent Spark Arresters and Chimney on the locomotive engines used on the Auburn and Rochester railroad, of different manufacturers, viz: Rogers, Ketchum & Grosvenor, Norris, and Eastwick & Harrison, for more than one year; and all the engines using these Spark Arresters and Chimney have made steam as free as with any other pipe we have ever used; and we believe the draft is as good as any other pipes of the same dimensions, and prevents the escape of sparks and cinders. There has not been any expense for repair on the Spark Arrester or Chimney since they have been put on the locomotive engines; and we further think that they will last for years with little or no repairs.

THOS. SNOOK, Supt. M. P.
CHARLES W. HIGHAM,
N. C. MARTIN,
WM. HART,
Locomotive Engineers.

—

Syracuse, August 21, 1842.

We, the undersigned, locomotive engineers on the Syracuse and Utica railroad, have used during the last two years, David Matthew's "Patent Spark Arresters and Chimneys," and on our engines we have been able to generate steam as freely as with any other pipe we have ever used. The draft is as strong and free as that of an open pipe of the same diameter, and most effectually prevents the escape of fire and cinders. There have, as yet, been no repairs required to any of these pipes, and we believe they may be used for years with but trifling expense to keep them in perfect order. We certainly consider this pipe a great improvement over any other with which we have been acquainted.

DAVID BEGGS, Supt. M. P.
PETER GRANT,
WILLIAM McGIBBON,
WILLIAM CESSFORD,
JAMES BONNER,
JOHN VEDDER, Jr.,
Locomotive Engineers.

—

Syracuse, April 4, 1847.

Mr. DAVID MATTHEW:

Dear Sir—Your letter came duly to hand, in relation to the Spark Arresters. Those which we use are all of your patent; and on the neighboring roads we got others to try, but they were not good, and we had to substitute yours.

I am, dear sir, yours respectfully,
DAVID BEGGS,
E. M. P. Sy. and Utica Railroad.

Utica and Schenectady Railroad Office,
May 5, 1847.

Mr. DAVID MATTHEW:

Sir:—In regard to the "Spark Arrester." several kinds have been tried; but yours, as you left it, has been constantly in use. We have your patent on fifteen engines, and use no other kind. Nothing tried here has been so acceptable to us.

Respectfully your ob't serv't,
WM. C. YOUNG,
Supt. and Eng. U. & S. R. Co.

—

Locomotive Works, Philadelphia,
February 2, 1850.

MR. DAVID MATTHEW, Vulcan Works, Baltimore:

Dear Sir:—Your letter of 30th ultimo reached us only this morning, and in reply we would state, that we have not had much opportunity of judging of the merits of your Pipe in comparison with others, but that on the Utica and Schenectady Railroad, where we have a number of our engines running, your Pipe is exclusively used, and preferred to all others. Yours very truly,
NORRIS, BROTHERS.

—

Patterson, N. J., Feb. 6, 1850.

Mr. DAVID MATTHEW, Baltimore:

Dear Sir:—Your favor of the 31st January is received. When we used your Spark Arresters on our locomotives they gave entire satisfaction, and we should have continued to use them if we could have procured them; but the gentleman at Catskill, who, we understood, had made arrangements with you respecting the sale of the right to use them, refused to furnish them, except there was an agreement made for selling the right to the whole road. This we could not do, which compelled us to procure our Spark Arresters elsewhere.

We have often been applied to for your Spark Arresters; but as we could not procure them, we have been obliged to furnish others.

Your Spark Arresters have been highly spoken of by all those that we know who have used them, and we think they are equal to any in use.

Very respectfully,
ROGERS, KETCHUM & GROSVERNOR.
Per S. J. ROGERS.

—

Utica and Schenectady Railroad Office,
Schenectady, Feb. 19, 1850.

DAVID MATTHEW:

Dear Sir—I received yours of January 25th, in reply to smoke-pipes, we consider the Spark Arrester of yours, used by us, far superior to any in use.

Respectfully, your obedient servant,
C. VIBBARD, Sup't U. & S. Railroad.

—

Mr. DAVID MATTHEW—

Dear Sir:—In reply to your enquiries I have to state, that I have been engaged in the manufacture of your "Spark Arrester and Smoke-Pike for steam engines," for over ten years last past.

I have no hesitation in saying, that your "Spark Arrester is the best that has ever been in use in this country. I have seen all others, or nearly all others tried, but your invention, as patented 31st December, 1840, possesses all the requisites for railroad and other uses in a degree decidedly superior to them all. I am now employed as an engine builder in the establishment of the Hudson River Railroad, and after a careful trial of all the spark arresters and pipes most esteemed in this country, we have found yours to be decidedly the best, and, in this opinion I am supported by the chief superintendent of motive power of that road, who has so expressed himself to me.

I am, very respectfully, your ob't serv't,
JOHN TAYLOR.

—

DAVID MATTHEW, Esq:

Dear Sir—Your "Patent Spark Arrester," has been in use on our Locomotives since 1840, during which time we have tried several of a different construction. We can recommend yours as being the most effective and economical of any used by us. Little or no inconvenience from sparks is suffered by passengers; nor is the draft obstructed. From the best estimate we can make they can be kept in repair for about ten dollars each per year.

C. VIBBARD, Superintendent.
V. BLACKBURN, Mast. Ma.

Office of the Syracuse and Utica R. R. Co.,
Syracuse, August 7, 1851.

My Dear Sir:—I am glad that you obtained your right of building Spark-Arresters, and most certainly it is the best in use, and generally approved of. I think they are using them pretty generally on the Hudson River R. R., and all the other patents which have been made since the date of yours, are copies in some degree, from yours. Anything that I can do to forward your interests in this matter will be done with cheerfulness. I think of going to Philadelphia this summer, and shall call on you.

Yours, very truly, D. BEGGS.

—

Utica and Schenectady Railroad Office,
Schenectady, August 30th, 1851.

This is to certify that Mr. David Matthew's Spark Arresters have been used on a number of the locomotives constructed by the Newcastle Manufacturing Company. They have, in all cases, given entire satisfaction. With them the exhaust pipes can always be made sufficiently large to ensure a full discharge of steam; while at the same time, they afford the necessary draught, and completely stop the sparks. I cheerfully recommend them to the attention of railroad companies and manufactures of locomotive engines.

ANDREW C. GRAY,
Pres't Newcastle Manufacturing Co.

—

Albany, September 8th, 1851.

Gen. W. SWIFT:

Dear Sir—This will serve to introduce to your favorable notice Mr. David Matthew, who is the inventor, and holds the patent for a Spark Arrester, which has been used by many of our railroads on their locomotives. I consider it a valuable improvement, and do not doubt but Railroad Companies will generally use it. Yours respectfully,
ERASTUS CORNING.

—

Office Hudson River Railroad,
New York, February 14, 1852.

D. MATTHEW, Esq.,

Dear Sir—I am so little acquainted with the merits of different kinds of Spark Arresters, that I do not feel competent to give an opinion for publication. I know that your Arrester is a good one, and has been highly esteemed on the roads where I have been employed. But I have not sufficient practical knowledge of the subject, to venture any comparison of its merits with other kinds of arresters.

Yours truly, O. H. LEE, H. R. R.

—

Office of the Hudson River R. R.,
31st st., New York, May 16, 1852.

Mr. DAVID MATTHEW:

Dear Sir—I have been acquainted with your Spark Arrester since its introduction, and have carefully watched its operation in comparison with many others. I have no hesitation in saying, that as a Spark Arrester without diminution of draft, it has no equal in use. I have been able to use a much larger exhaust pipe than with other pipe, and, from experiments recently made, I am satisfied that the Cap, or Spark Arrester, is no impediment to the draft of the open chimney. Very respectfully,
HENRY WATERMAN,
Superintendent of Motive Power.

—

I have this day purchased the right to use the above pipes on the Saratoga and Washington railroad, and concur in all that Mr. Sargent has said of them. J. VAN RENSSELAER,
Superintendent S. & W. R. R.
Saratoga Springs, May 22d, 1852.

—

Albany and Schenectady Railroad, Albany.

Having used Mr. Matthew's Spark Arrester on our engines, and considering it a valuable invention, we have purchased the right to use it on our road. E. C. M'INTOSH, President.

—

Schenectady and Troy R. R. Office,
Troy, July 20th, 1852.

I have this day purchased the right to use Mr. Matthew's Spark Arrester on this road; I have been acquainted with this Spark Arrester for ten years, and consider it the best that has come under my notice. EDWARD MARTIN,
Superintendent S. and T. R. R.

Office Rensselaer and Saratoga Railroad,
Troy, May 22d, 1852.

This may certify that I consider the Patent Locomotive Smoke Pipes and Spark Arrester of D. Matthew's as more economical and safe than any now in use. It is more durable, and throws less fire and cinders, without impairing the draft, they have been in constant use upon the different roads under my charge since 1841, as have all the other various kinds now used, and after this long experience and careful observation, I am entirely satisfied that those invented by Mr. Matthew are decidedly the best, and I have secured the right to use the same by this company, and the Saratoga and Schenectady railroad company, by purchase made yesterday. L. R. SARGENT, Superintendent.

—

I have this day purchased of Mr. Matthew the right to use his Spark Arresters on the Syracuse and Utica railroad. I believe it is the best pipe there is. JOHN WILKINSON,
President S. & U. R. R.
Syracuse, July 16, 1852.

—

I have this day purchased of Mr. David Matthew the right to use his Patent Spark Arrester on the Rochester and Syracuse railroad, during its present term, and renewal or extension, believing it to be the best Arrester now in use.

CHARLES DUTTON, Supt.

—

Superintendent's Office
Buffalo and Rochester Railroad Co.,
Buffalo, July 29, 1852.

David Matthew, Esq., has this day conveyed to this company the right to use his Spark Arrester, patented in 1840. It has been in use on this road for some years past, and gives better satisfaction than any other improvement claiming the name of Spark Arrester. HENRY MARTIN,
Superintendent, J. W.

—

☞ REFERENCE is made to the following Gentlemen and Companies, with whom Agencies have been established for the sale of the Spark Arrester, and rights under the Patent:—

Erastus Corning, Esq., Albany, N. Y.; Messrs. Rogers, Ketchum and Grosvenor, 74 Broadway: New York city, and at their Works in Patterson, N. J.; The New Jersey Locomotive Machine Company, at Patterson N. J., James Jackson, President,—address also at Patterson, Messrs William Swinburne & Co., Locomotive Builders, Patterson, N. J.; Messrs. Norris, Brothers, Philadelphia, Pa.; M. W. Baldwin, Esq. do; A. C. Gray, Esq., Newcastle Manufacturing Company, Newcastle Delaware; the Schenectady Locomotive Iron Works, Schenectady, N. York; The Boston Locomotive Works, Boston, Mass.; The Taunton Locomotive Manufacturing Company, Taunton, Mass.; Wm. Cundle Patterson, N. J.; Clute & Brothers Schenectady; Peter Smith, Albany, N. York; Thomas Snook, Rochester, N. Y.; Nashville Manufacturing Company, Nashville, Tenn.; Niles & Co Cincinnati, Ohio; Cuyahoga Works, Ohio City.

All applications for the use of the above Patent Rights, etc. for the New England States, and New York, East of the Hudson River, to be made to H. VAN KURAN, Boston Locomotive Works, Mass., or to D. MATTHEW, Patentee, Philadelphia, Pa.

NOTICE.—Railroad Companies getting new engines, can have Matthew's Patent Spark Arrester placed on them, by applying to the manufacturers, so that the apparatus costs them nothing but the patent right. This they will find of great advantage to them. D. M.

To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ashcroft's Steam Gauge, would recommend their adoption by those interested. They have been extensively used on Railroads, Steamers and Stationary Boilers, where, from their accuracy, simplicity, and non-liability to derangement, they have given perfect satisfaction. In fact, for Locomotives, they are the only *reliable* Gauge yet introduced.

CHAS. W. COPELAND,
Consulting Engineer, 64 Broadway,
Aug. 28, 1852.—6m*

"Leonard's" Patent Double Plate Car Wheel. Solid Hubb.

THE form of this Wheel is such that the metal is not strained in casting, hence the manufacturer will warrant them in any service Car Wheels are submitted to.

Sold in any quantity, and shipped to any part of the country or Canadas, by the subscriber, Manufacturer's and Patentee's sole Agent 53 Kilby St., Liberty Square, Boston. WM. S. SAMPSON.

August 21, 1851.

LOW MOOR AXLES,

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent- WM. BAILEY LANG, 9 Liberty Square, Boston.

500 Tons of Wire Wanted.

PROPOSALS ARE INVITED by the undersigned, on the part of the NIAGARA FALLS INTERNATIONAL BRIDGE COMPANIES, for the construction of the Wire Cables of the Railroad Suspension Bridge, of 800 feet span, to be erected over the Niagara river, below the Falls, for the delivery of ONE MILLION of POUNDS of IRON WIRE, or any portion of it, not less than 100,000 lbs, at the site of the bridge, on the following conditions:

1. The wire is to be of No. 10 size, so that 20 feet will weigh exactly one pound.
2. The skeins to weigh no less than 18 lbs. An offer for 30 to 40 lbs. will be greatly preferred.
3. The wire must be finished with a lime coat, smooth and even, both ends of the same thickness.
4. It must be finished in three holes, or nearly as hard as spring-wire.
5. The iron must have been manufactured of the best quality of charcoal blooms, which will make hard wire of great elasticity, strength, fibre and toughness.
6. The blooms must have been manufactured of cold-blast charcoal pig, and not of anthracite pig, nor of hot-blast pig.
7. Satisfactory evidence will be required before hand of the quality of the iron, of which the wire is to be drawn.
8. The wire must be drawn on blocks of no less than 2 feet diameter.
9. It must be put up in bundles of 200 lbs., as near as can be done, without small skeins.
10. The wire is to be delivered in five equal portions during the months of May, June, July, August and September of next year.
11. On delivery, the wire will be examined and tested in the following manner:—Of every 5 bundles or 1,000 lbs. one skein will be selected, and suspended between two posts 400 feet apart, the one end attached to a capstan, by which it will be gradually hauled on until it breaks. The condition now is, that this wire must not break with a greater deflection than 9 inches, which is equivalent to 1,300 lbs., or 90,000 per superficial inch of solid wire section. If it stands this test, then further examination of that one thousand pounds, in respect to other qualities, will be continued; but if not, it will be rejected and placed at the disposal of the contractor.
12. As regards toughness and fibre, each end of a skein will be tested by bending it square over the jaws of a large pair of new and sharp pliers, and bending it back again. The wire must stand this test without the least sign of failure. Its hardness and elasticity will at the same time be examined by bending and swinging, also by hammering, filing and notching the ends, which forms part of the operation of splicing.
13. Such lots as have stood the various tests satisfactorily, will then be accepted conditionally, and 80 per cent of its full value will then be paid to the contractor in bankable funds.
14. The 20 per cent will be reserved for four months longer. Should in that time, during the construction of the cables, any more defective skeins be discovered, such skeins will be rejected and placed at the contractor's disposal, either broken or whole, oiled or not oiled, in such condition as they happen to be during the progress of the work. The value of such wire, together with the labor expended upon it, will then be deducted out of the 20 per cent reserved.
15. The undersigned, as the Engineer of the Bridge, will be the sole judge of the above tests; he will stand as an impartial umpire between the contractor and the Bridge Companies, and from his decision there shall be no appeal.
16. Proposals for imported wire will also be accepted. One-half or 500,000 lbs. will be used on the Canada side, and may be bonded, if imported by way of New York.
17. Proposals will be received until the 1st October next; they are to be directed to the undersigned at Niagara Falls, N. Y., and should be marked on the envelope, "*Proposals for Bridge Wire.*"
18. Those contractors, whose proposals are accepted, will be informed of the fact by mail before or on the 10th October next.

JOHN A. ROEBLING,
Eng. Niagara Falls R.R. Suspension Bridge.
NIAGARA FALLS, N. Y., August 5th, 1852.

UNION WORKS,

North street, opposite the Railroad Depot,
BALTIMORE.

Poole & Hunt,

Manufacturers of Steam Engines and Mill Gearing, Machinists' Tools, and all kinds of heavy and light Machinery.

Also put up *Arrangements of Wrought Iron Pipes* for heating buildings and conveying steam or water.

Castings of every kind furnished at short notice.

Every exertion will be made to insure the satisfaction of customers.

Patent Metallic Measuring Tapes.

A New Article, made from Vegetable and Mineral substances combined, entirely free from the objections made to all other tapes, arising from contraction and elongation in consequence of atmospheric changes. Fine wires, of a material not affected by dampness or dryness, are woven into the warp of the Patent Tape, rendering it not subject to variations in length, like all other tapes heretofore manufactured.—Instead of being merely painted, it is immersed in a peculiar solution of gums, and the fibres being solidly compacted together, it acquires substance and strength presented by no other article. They are enclosed in patent cases, superior to all others in lightness, strength and durability.

Imported and for sale only—together with every description of Drawing and Profile Paper, Tracing Paper in rolls, Vellum or Tracing Cloth, Field Books Mouth Glue, and a general assortment of Engineer materials—by WILLARD FELT,
Importer of Stationary 191 Pearl st., N. Y

Iron.

200 Tons Fishkill Charcoal Iron for sale on reasonable terms, also from 1000 to 5000 tons Fishkill Hematite Ore—delivered at Poughkeepsie or New York. Samples of the ore may be seen at the store of Messrs. Hoffman, Bailey & Co., No. 62 Water st., New York. Enquire by letter to
NORMAN M. FINLAY,
Poughkeepsie, Dutchess county, N. Y.
July 10, 1851.

Cotton Steam Packing.

THIS Superior Packing is prepared by us expressly for Locomotive Engines. The advantages resulting from its use are—cheapness—greater safety, and economy of labor.

Orders addressed to us at 91 Wall st., New York, will have prompt attention.

J. M. HALL & CO.

P. S.—Waste for cleaning engines, in quantities as wanted. July 24, 6m*

A. Whitney & Son,

PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels for Cars and Locomotives. Also furnish Wheels fitted complete on best English and American Rolled and American Hammered Axles. 31tf

I. Dennis, Jr.,

WASHINGTON, D. C.,

ATTORNEY for Inventors, and Agent for Procuring Patents—Practical Machinist, Manufacturer and Draughtsman, of 20 years' experience. Circulars containing important information, with a map of Washington, sent to those who forward their address, and enclose a stamp. 31tf

Railroad Contracts.

THE Mobile and Ohio Railroad Company hereby offer for contract the *Graduation, Masonry* and *Bridging* of 179 miles more of their road, extending from Section 64 of the last *letting* in Wayne Co. to the south line of Pontotoc Co., Miss.—the latter point being 267 miles from Mobile.

The line will be ready for inspection on and after the first of August next. Also, plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

August 15th—At Quitman, for line in Clarke County.
" 25th—At Lauderdale Springs, for line in Lauderdale and Kemper Counties.
September 5th—At Macon, for line in Noxubee County.
" 15th—At Major Gilmore's, 16th section on "Robinson" Road, for line in Lowndes County.
" 25th—At Doct. Gillespie's, on Aberdeen and Houston Road, for line in Monroe County.
" 30th—At Okolona, for line in Chickasaw County.

From July 25th to August 10th, the profiles can be examined, and other information obtained, of C. B. Child, Esq., Resident Engineer, at Macon, Noxubee Co., Miss.

The grading upon 8 miles of this line is heavy and good car work. About 35 miles middling heavy, and the remaining 136 miles light.

The high and healthy country in which this line of work is situated, and the proposed *letting* of 250 miles more within twelve months, to complete the road to the Ohio and Tennessee rivers, for which subscriptions are now partly taken up, render this work worthy the attention of contractors both north and south. JOHN CHILDE,
Chief Engineer and General Agent.
New York, June 14th, 1852.

Notice to Contractors for Masonry and Bridging.

ALABAMA AND TENNESSEE RIVER R. R.

PROPOSALS will be received at the office of the Alabama and Tennessee River Railroad Company, in Selma, Alabama, until the 15th September next, for the Masonry and Superstructure of "Coosa," "Waxahatchie," "Tallasseehatchie," "Talladega" and "Chockolocko" Bridges, and also for the other masonry required on 90 miles of this road.

The work comprises about 3,000 lineal feet of Timber Bridging and 20,000 perches of Masonry, and is situated in a healthy country, where materials, provisions and labor are abundant and cheap.

Plans and specifications may be seen, and all information will be furnished at the offices of the Engineer Department in Selma and Talladega, Alabama.

Satisfactory evidences of ability and responsibility will be required from those proposing for the work. LEWIS TROOST,
Chief Engineer.
New York, August 3d, 1852. 5t32

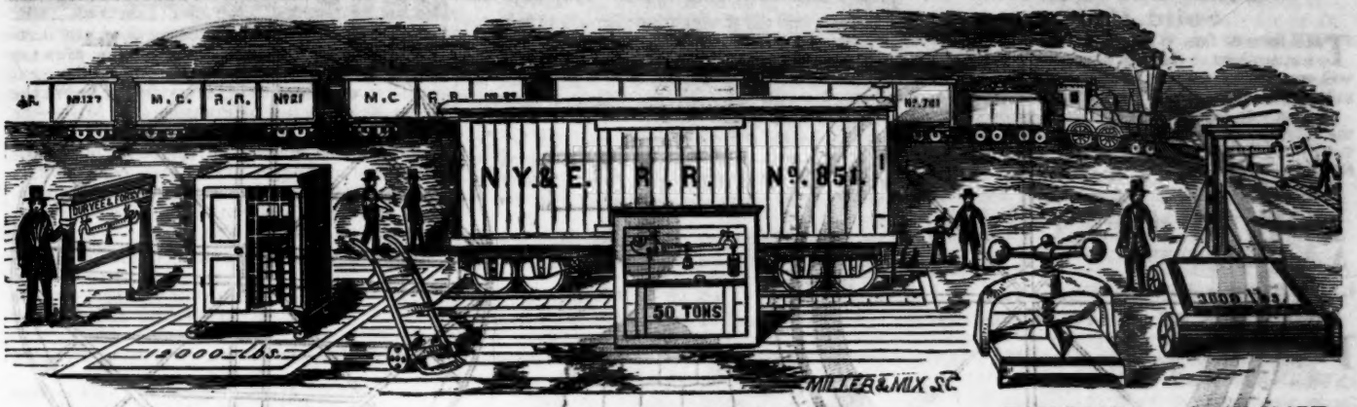
LOW MOOR IRON.

WM. BAILEY LANG, 9 Liberty Square, Boston, Sole Agent in the United States and Canadas for the Low Moor Iron Co., is prepared to receive orders for this justly celebrated Iron, and offers for sale an assortment of the Round sizes which he now has in store, and which for strength, soundness and uniform quality, stands without a rival.

Railroad and Mathematical Instruments.

KUNS & BASELER, Mathematical Instrument makers, manufacture and keep for sale all kinds of mathematical instruments: also drawing instruments, scales and balances for the use of chemists, professional gentlemen, jewellers, etc., etc., of the most perfect description, at the lowest price, at 81 Nassau street, New York.

ROCHESTER SCALE WORKS.



DEPOT SCALE, 6 TONS, AND FIRE KING SAFE. | TRACK SCALE, 100,000 LBS. | RAILROAD MANIFEST PRESS. | IRON SCALE, 1 1-2 TONS.

DURYEE & FORSYTH, MANUFACTURERS, ROCHESTER, N. Y.

THE Subscribers are prepared to furnish upon order, RAILROAD SCALES of superior quality at *reduced rates*; Warehouse Trucks: Manifest Presses and Books; also, COVERT'S FIRE KING SAFE.

It has been decided by Scientific Gentlemen, that our Scales are preferable to all others, from the fact of their being made stronger and more substantial, more material used in the construction of the Levers, which renders them much safer and more durable.

OUR MOTTO is, to excel in the articles we manufacture; *therefore the best materials are used. The best model and plans are adopted*, to make them the most desirable for the market.

We wish it distinctly understood, that we use the best CAST STEEL in the bearing edges of our Scales, *although it has been otherwise reported by Messrs. Fairbanks' Agents.* We are ready at all times to test the merits of our Scales with any *honorable* competitor.

A large majority of the Track, Depot and Portable Scales in use by the New York and Erie Railroad Co. were furnished by us. Also, the Michigan Central Railroad is furnished exclusively with our Scales.

The facilities that we have for manufacturing with new and improved machinery, and the central position we occupy for shipping to the different markets, enables us to reduce the price of our Scales 10 to 15 per cent from former prices.

Our Mr Duryee has had over twenty-one years practical experience in manufacturing. The work being under his charge furnishes a sure guaranty of the superiority of our wares. All orders will receive prompt attention. DURYEE & FORSYTH.

GENERAL DEPOTS:

Wm. T. Pinkney, Jr.,	Agent,	166 Pearl st., N.Y.
Raymond, Ward & Co.,	"	Chicago, Ill.
Crawford & Reynolds,	"	Cleveland, Ohio.
Joseph E. Elder,	"	St. Louis, Mo.
Byram, Miller & Shreve,	"	Louisville, Ky.

The following Railroads have been furnished with our Scales and Wares, exclusively or nearly so:

New York and Erie,	Cleveland and Columbus,
New York and Ha lem,	Michigan Central,
New York and N. Haven,	Mad River and Lake Erie,
Sandusky, Mansfield and Newark,	Paterson and Hudson R.,
Indianapolis and Bellefontaine,	Cincinnati, Hamilton and Dayton,
Syracuse and Utica,	Buffalo and Rochester,
Columbus and Xenia,	Rochester and Syracuse,
Lexington and Frankfort,	Louisville and Frankfort,
Hillsboro' and Cincinnati,	Chicago and Galena,
Greenville and Miami,	Dayton and Western,
Cayuga and Susquehanna,	Central Ohio,
Rome and Watertown,	Chemung,
Rutland and Washington,	Illinois Coal Company,
Erie and State Line,	Buffalo and State Line,
Rochester, Lockport and Niagara Falls,	Cleveland and Pittsburg,
	Michigan Southern,
	American Express Co.,

The Hon. Canal Commissioners, and Engineers of the Erie Canal Enlargement.

—

Michigan Central R. R. Office,
Detroit, May 10th, 1852.

MESSRS. DURYEE & FORSYTH,
Rochester, N. Y.,

Gentlemen: We have in use upon our road nearly one hundred of your Scales, comprising most of the sizes ordinarily in use upon railroads, many of which have been in service four or five years.

They have kept in adjustment well, retain their sensitiveness, and we regard them as strong, accurate, reliable, and in every respect satisfactory.

Respectfully yours,
J. W. BROOKS, Supt.

—

New York and Erie Railroad,
Supt's Department Gen'l Freight Office,
New York, June 21st, 1852.

To MESSRS. DURYEE & FORSYTH,
Rochester,

Gents: This company have had in use on their road for three years past about fifty of your Railroad Track, Depot and Portable Scales. It affords me much pleasure to assure you that I consider them fully equal to any scale in use on the road, in point of strength, durability, accuracy and finish.

I am very respectfully, your ob't serv't,
SAM. BROWN, Gen'l Freight Ag't.

—

The following Report was made by the Hon. Canal Commissioners of the Erie Canal Enlargement, to the Legislature of the State of New York, Feb. 3d, 1852.

WEIGH LOCK SCALE.

It is but justice to say that the new Weigh Lock at Rochester abundantly sustains the reputation claimed for it by its worthy and scientific builders.

Messrs. Duryee & Forsyth have constructed for this lock, scales of superior power, and may well challenge comparison with any similar work in or out of the State. The mode of adjustment is so easy and simple, that great certainty is secured in determining large or small weights.

Report on Duryee & Forsyth's Weigh Lock Scale, by the Committee of the State Agricultural Society.

The Committee appointed to examine the Weigh Lock Scale in the City of Rochester, manufactured by Messrs. DURYEE & FORSYTH, of said city, have performed the duty assigned them, and report that they regard it as an admirable piece of mechanism, which reflects great credit on the builders. Length of Scale, 80 feet; width, 20 ft.; height, 32 ft.; weight of scale, 75 tons: capacity of weighing 400 tons.

Considering the weight and strength of the materials used, the delicacy and accuracy of this apparatus for weighing loaded canal boats of the largest class, this scale excites universal admiration. One of the committee tested it when under the pressure of a weight of 219 tons 900 lbs., and it clearly indicated a small additional weight within five pounds.

Any description of this Scale would hardly be intelligible without drawings, which the committee have not at command. It has no equal known to the committee. They recommend that a GOLD MEDAL be awarded to DURYEE & FORSYTH, for the manufacture of an article so important to the protection of the revenue of the Erie canal, and to the accurate weighing of an incalculable amount of private property.

C. DEWEY,
DANIEL LEE.

Rochester Sept. 20th, 1851.

—

We have received the Society's FIRST PREMIUMS, DIPLOMAS AND SILVER MEDALS, annually, since 1848, for the best Scales and exhibition. We have also received the DIPLOMAS and SILVER MEDAL of the American Institue, New York, and DIPLOMA of the Mechanics' Fair in Boston. Also, the HIGHEST PREMIUMS IN MONEY and DIPLOMAS of the Provincial Fairs, Canada, and State Fairs in Ohio and Michigan.

$200,000 SEVEN PER CENT. CONVERTIBLE BONDS OF THE NEW-CASTLE and RICHMOND RAILROAD.—The undersigned offer for sale TWO HUNDRED SEVEN PER CENT CONVERTIBLE BONDS for $1,000 each, of the NEW-CASTLE and RICHMOND RAILROAD COMPANY, with Interest Coupons attached, payable semi-annually at the office of the Ohio Life Insurance and Trust Company, in New York. The Bonds are payable at the same place in fifteen years and are convertible into the stock of the company within five years.

These Bonds are secured by a mortgage executed by the Company to George Carlisle, of Cincinnati, and Joseph B. Varnum of New York, Trustees of the road from Richmond in Wayne County, to New-Castle in Henry County, including the superstructure, iron rails, depots, tolls, privileges and franchises of the Company. This mortgage is the FIRST AND ONLY LIEN upon this section of the Road, which is a part of the great Trunk Railroad from Cincinnati to Chicago.

The New-Castle and Richmond Railroad extends from Richmond to Logansport, 103 miles, the whole of which is under contract, and about one thousand hands are now employed on the road.

The total amount of stock subscribed upon the whole road is $509,400. The stock applicable to the construction of the road from Richmond to New Castle is $250,900.

This railroad passes through the most fertile, populous and highly improved part of Ohio and Indiana, and it must become the great route for freight and travel between Cincinnati and Chicago and the Northwest.

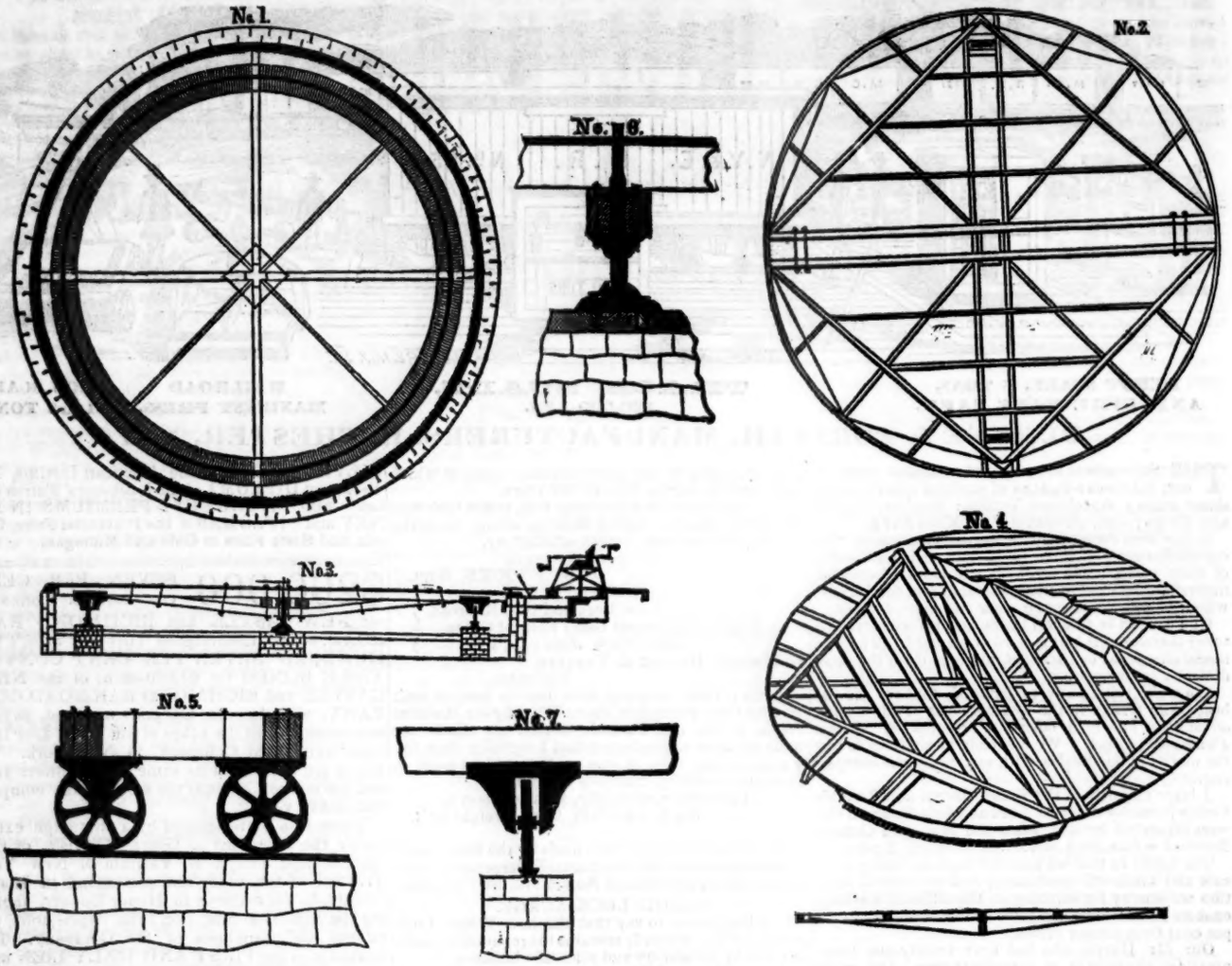
The local business alone would be sufficient to make the road profitable. The counties of Indiana through which it runs produce annually more than two millions of bushels of wheat, five millions of bushels of corn, one hundred and fifty thousand hogs, and fifteen thousand cattle, a large part of which must be transported to market on this road.

The iron rails for more than fifty miles of the road have been purchased. Ten miles of the road, from Richmond to Washington, will be completed and in operation in November next, which will make a continuous railroad of about 70 miles from Cincinnati, by way of Hamilton, Eaton and Richmond.

The holders of the bonds will have for their security the obligations of the company, with subscriptions of stock to the amount of more than half a million of dollars, and a mortgage upon the road from Richmond to New Castle, with the iron rails, superstructure, tolls and franchises of the company.

CARPENTER & VERMILYE, 44 Wall-st.
CAMMANN WHITEHOUSE & Co., 56 Wall-st.

CARHART'S IMPROVED TURNTABLE.



THE Patentee of the improved Turntable solicits an examination of its merits by Railroad Companies. It has been in use on the Hudson River Railroad during the last three years, since which some improvements have been made upon it. The Patentee is now putting down the fifth table on the Ohio and Pennsylvania Railroad, where these tables have been in use for one year past. The *chief merits* of this Turntable are that it is capable of being turned by two men, with an engine and tender upon it, weighing thirty-five tons, in the space of two minutes. Its cost, including all material, the best kind of workmanship in wood, iron and masonry—except excavating the pit and laying the track—is only *thirteen hundred dollars*, and all repairs, except the ordinary wear and tear, will be guarantied for the sum of five dollars a year, for three years.

Figure 1 of the above cut represents the foundation, consisting of the bank and track walls; centre pier, cross-timber for bolting the step of pivot to. The track, which is spiked and leaded into the coping of the wall, the latter being composed of stone 2½ feet square. The Bank wall is 5 feet high and 20 inches thick, with cut and hammered dressed stone coping laid in lime and sand. Fig. 2 shows the carcass framing. Fig. 3 gives a side view of one main truss, with the mode of gearing, including rack and pinion. Fig. 4 gives a perspective view of rim and segments. Fig. 5 an end view of the main trucks with pedestals and wheels. Fig. 6 screw for pivot, 6 inches in diameter, running to the top of the table, with the lever for adjustment. Fig. 7 shows the cross section of the track wall, wheel and pedestal.

For further particulars please address the subscriber through WM. W. PRATT, Jersey City, N. J.

June 19th. D. H. CARHART.

New York and Canada.

The attention of Merchants, Traders and travellers, is directed to the facilities now afforded for the conveyance of freight and passengers direct from this city to Montreal.

The Champlain and St. Lawrence Railroad Company having opened their road from Rouse's Point to South Montreal, the only link before wanting to connect New York with Montreal by a continuous railroad, has been supplied.

Passengers leaving New York in the morning, sleep comfortably on the way, and arrive at Montreal at half-past four the following afternoon, reducing the travelling time to little more than twenty hours

Freights are carried with the greatest care and dispatch, at greatly reduced rates.

After the opening of navigation, passengers will be conveyed from one city to the other by day light.

New York, Feb. 13, 1852.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20. 1849.

To Telegraph Companies.
TELEGRAPH WIRE.

ORDERS taken for all numbers of best quality of English Telegraph Wire. Samples at the office of the Subscribers. JEE, CARMER & CO.,
6m*14 75 Broad st., New York.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK, Troy, N. Y.
or, MOORE HARDAWAY, Richmond, Va.
March 6, 1850.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Smith & Tyson,,
IRON COMMISSION MERCHANTS,
BALTIMORE.

REFINED Juniata Charcoal Billet Iron for Wire.
Do. for Bridging, of great strength.
Flat Rock, Boiler and Flue Iron, rolled to pattern.
Elba, Wheel Iron of great strength and superior chilling properties. Elba Forge Iron, American Shot Iron, Cut Nails, Spikes and Brads, Nail and Spike rods, Railroad Spikes of superior quality, Wrought Chair plates of any pattern, punched or plain.

M. B. Hewson, *Civil Engineer.*
(Open to a New Engagement,)
Memphis, Tenn.